YACHTING

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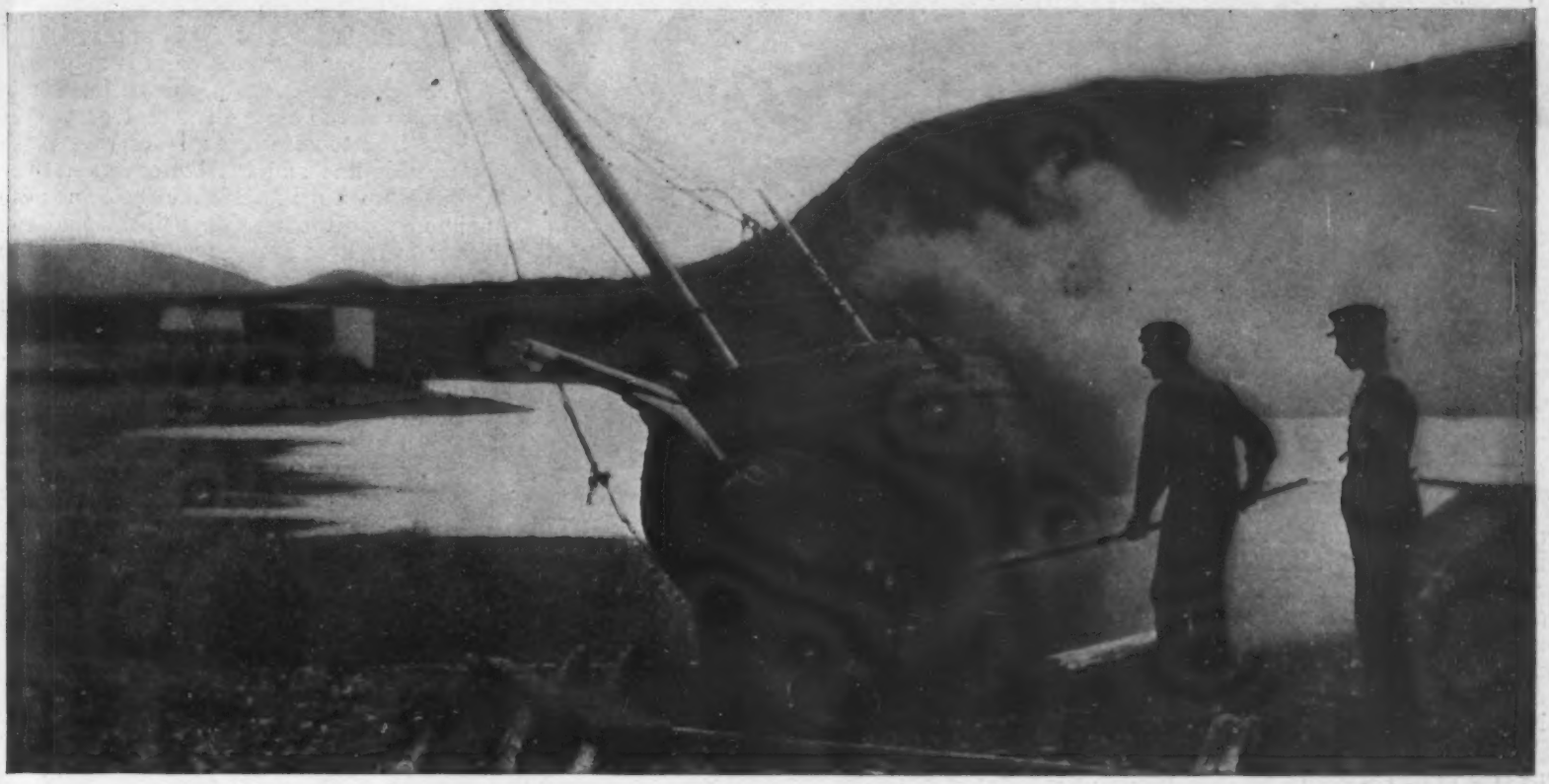


FITTING OUT TIME WITH THE NEW FOUNDLAND FISHERMEN. A COAT OF TAR OF NECESSITY USUALLY TAKES THE PLACE OF CAULKING AND PAINT TO MAKE A BOAT TIGHT

Fitting Out Time

Getting Ready to Paint

BEFORE starting to paint or varnish a boat be sure to have all the dirty work of overhauling, particularly about the engine, completed. There is no use of putting on fresh paint and then messing it up with dirt and grease, or in getting a locker door neatly varnished and then having to plane off one edge or rehang it.

In laying out the work be sure to do it in the proper order, that is, get the interior finished up first, then start at the top and work down.

The first thing to do will be to get the boat cleaned out thoroughly. Of course, this should properly be done in the fall when laying up, but it is sometimes slighted and must be done before painting. Clean out all the dirt from all the corners and scrub out the bilges; wipe down all the paint and varnish work with fresh water and soap. Do not use washing soda or boiling water on enameled paint, but lukewarm water applied with a soft flannel cloth or a sponge. After the boat is cleaned out let her dry for two or three days, leaving everything open and giving the sun and air a chance to do their work. Wood must be absolutely dry before applying paint, or a poor job will result.

Smoothing Up

Unless the old paint is in bad condition it may simply be smoothed up with sandpaper and new coats applied on top. After four or five years, however, paint gets thick and is apt to blister in spots and be rough in others. When it gets in this condition it must be burnt off and all the paint removed and the bare wood exposed. This is done by heating the paint with a gasolene blow torch until it is softened. It is removed with a scraper. There will be spots that will require considerable work, but most of it will come off quite readily.

Any unfair places, where a plank edge may have swelled, must be planed off and the entire surface sandpapered until it is quite smooth. Any holes, such as nail holes, must be puttied with a good white lead putty to make a smooth surface.

Caulking

The caulking should be gone over and renewed, if necessary. If the caulking seems to be fairly hard and fills the seam well and the boat has not leaked the previous season it is doubtful if recaulking will be necessary. If she has made much water the year before, she may need caulking all over or, possibly, only in parts. By trying the seams with a knife you can ascertain whether the caulking is firm or soft, and by picking out a little of it its condition will show. If it is in bad shape, discolored and weak, recaulking will be necessary.

Varnishing

The varnish work may need attention and may not. If it is in good shape and has a good gloss, with plenty of body, it need not be renewed until later in the season, The probabilities are that the bright work will have to be done over, and this usually means that the old varnish must be removed. This is done by scraping—not with a three-cornered scraper, but with a flat one, using different shapes where necessary on mouldings and carved work. By the use of some of the prepared removers you may soften up the old varnish so that it will roll off quite readily under the scraper or, with some preparations, may merely be washed off. These removers must be used as per directions and with caution, as some of the inferior ones turn the wood black if left on too long. After scraping well the wood must be smoothed down with sandpaper, and sometimes finally rubbed down with fine pumice powder, used on a piece of felt or even applied with the bare hand.

In buying varnish do not grudge the

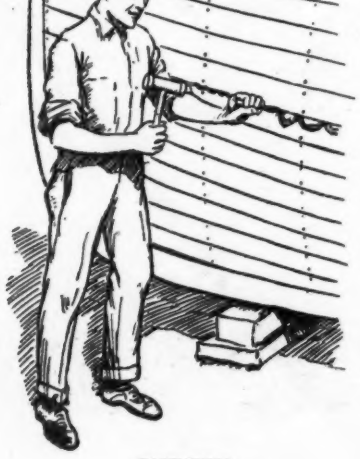
BRUSH OUT THE PAINT EVENLY AND SMOOTHLY SO AS NOT TO LEAVE BRUSH MARKS

price. Get a good quality of *spar* varnish, made by a reputable maker, and apply it according to directions. Be careful not to varnish or even paint on a day when a good breeze is blowing the dust around, as dirt and dust will become inbedded in the tacky varnish and a satisfactory job cannot be obtained.

Before putting on the second coat the first one should be rubbed down lightly with fine sandpaper and powdered pumice to get a perfectly smooth surface.

Brightening Up the Cabin

For the interior finish you may use an inside varnish, but my personal preference is spar varnish for all bright work on the boat. This is not affected by the dampness, and the cabin of a boat is frequently damp and at times a very wet place. Above all do not use house varnish, as this is no good for boat work, as it soon loses its gloss and turns white. Get good marine varnish, even if you have to pay a high price per gallon for it, as the total quantity will not be great and putting on good varnish in the spring will mean that the boat will look shipshape throughout the season. On the other hand, if you skimp on the price of the varnish, before the summer is over it will probably have lost its gloss and there will be a number of bare spots or, at least, places where it is worn thin.



CAULKING

Painting the Outside

When you come to painting it is much easier and probably better to use one of the regular ready-mixed brands of *yacht* paint. In large shipyards the boss painter has his own formula for mixing paint and will tell you that nothing else is any good. The foreman at the yard across the river will have quite a different formula and will despise the results that his brother artisan obtains. Some will tell you to use a good deal of zinc with the white lead to ensure a dazzling white surface. Others will warn you against the use of zinc, as it tends to make the paint flake off. Some use a pure white lead and oil, which produces a very durable coating, but one that takes half the season to dry out, and so it goes. As I said before, it is best for the amateur to buy a good grade of prepared yacht paint. Do not get an inside paint or house paint, as the conditions afloat would soon put them out of business.

Be sure that the wood or the old paint is perfectly smooth and dry before applying the new and work out each brushful quickly trying to leave as few brush marks as possible.

In painting a boat start from the top and work down. Then if the paint drips any it will run over the unpainted surface and not over that which you have just completed. Use a fair-sized brush (one about two inches wide) for the straightforward work.

If the deck is painted and the house is bright or painted a different color, hold a sheet of cardboard against the house as you paint up to it, otherwise the deck color may spatter on it, or the brush may slip and make an ugly mess close to the corner.

There are a number of brands of bottom paints, some good and some not so good. Most of them contain copper in one form or another, usually a copper soap poisonous to barnacles and grass. Bottom paints are very quick drying and the boat may be put overboard soon after the paint is applied.

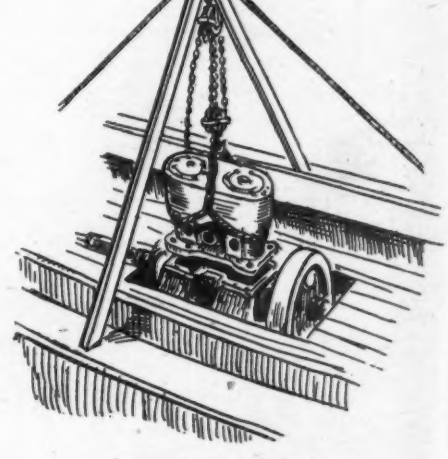
The waterline is usually rased in, so that it can be found through a coat or two of paint. The topside color is carried down below this line and the bottom paint later worked up to it. If the bottom were painted first the topside paint would run down over it and a ragged line would be the result.

In painting the bottom do not coat the strainers on the various sea connections. Also be sure to paint every part of the bottom. This means that every keel block, bilge block or shore must be shifted. The way to do this is to paint the bottom with the blocking as it is, then fit temporary blocks close to the permanent ones, remove the latter, and paint the bare places.

Don't leave any bare spots, or "holidays," as the painter call them. Make all your brush strokes in the same direction. Be sure to let each coat dry thoroughly before you start to apply the one on top of it.

Overhauling the Engine

If you have an engine in your boat it ought to be gone over thoroughly in the spring overhaul if this work was not done at laying-up time. Make this overhaul as thorough as possible, so as to insure the engine working well. Don't go on the supposition that because it worked well last year it does not need looking after and some care. To do this work satisfactorily, it may be advisable to take the motor down, that every component part can be cleaned, properly adjusted and any minor repairs made. In single- and double-cylinder motors of the two-cycle design the work of overhauling is a simple proposition, and even the novice can do the work easily. The more complicated four-cycle motor entails some little extra work, yet the overhauling of a



RAISING THE ENGINE

four- or even a six-cylinder is not a formidable job, providing it is done in a methodical manner and enough time is taken to do the work well.

To Insure Proper Reassembling

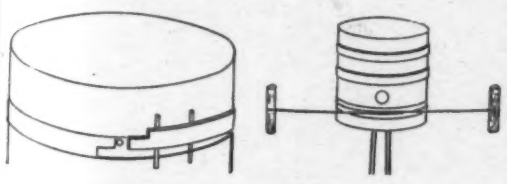
As one strips the engine to take it down there will be many parts which are not only apt to get lost, but may cause the novice some worry as to where they belong when he comes to put the motor together again.

A few old boxes will come in handy to keep each unit separate and prevent possible mislaying and mixing up of the different parts. The logical step is to remove the pistons; and while this is an easy matter in motors with removable heads, more difficulty is encountered if yours happens to be a multi-cylinder cast in pairs or *en bloc*. In this case the usual way is to disconnect the cylinders from the base and lift them off. Where the cylinders are heavy this can be done by using a pair of sheer legs set up over the engine, with a forward and an after guy, and an ordinary four or six-part tackle, or a regular chain hoist. (See diagram.) The cylinders should be given a thorough soaking in kerosene to soften up the carbonized deposit, or one of the several carbon removers may be used to clean up the bore.

Make it a point to mark each cylinder before it is taken off, and do the same with each piston and its several rings. A small file or punch mark is quickly made, and with this guide there is no possibility of making a mistake in assembling.

Removing Piston Rings

See that the piston and piston rings are thoroughly clean and free from carbon. Carbon is apt to "set" during the period that the engine is not in use, and even though the engine will turn easily the piston rings are likely to be stuck, causing loss of compression. With an engine with a removable head the piston can be easily removed without dismounting the engine by taking off the head, loosening the connecting rod bearing on the crank shaft through the handhole plate and taking out piston and rod through top of cylinder. If the rings are found to be stuck by carbon it should be softened by the application of kerosene or carbon remover and the ends gradually worked loose with the flat end of a screw driver. Great care should be taken in loosening a stuck ring, for it is easily broken when spread too far. When a ring is loosened it may be removed by spreading one end until a wedge or short piece of wire can be placed between it and the outer surface of the piston, and by thus following the ring around, alternately spreading and



A JOB TO REASSEMBLE IF YOU DON'T MARK THE PIECES

wedging, it will finally be sprung far enough apart to be slid out of the groove onto the piston wall. The rings of a small motor may be sometimes removed with the fingers; but the ordinary rings are so stiff that the method described above, or some variation of it, must generally be used.

The return of the piston to the cylinder will be slightly more difficult, as the expanded condition of the rings must be reckoned with. In the case of the cylinder with the removable head, in which the piston is set down from the top, the rings may be compressed by means of a length of strong stovepipe wire with a wooden handle fastened at each end. This wire should be about 8 inches longer than the circumference of the piston, and when looped around a ring with the ends crossed at its joint and the handles pulled in opposite directions to tighten the loop, the ring will be compressed sufficiently to allow it to slip down into the cylinder. With cylinders having a solid head, where the whole casting must be slipped down over the piston, this wire and handle arrangement cannot be used. In this case an easy way is to tie a piece of marlin, or heavy, tarred cord, around each ring to hold it close together.

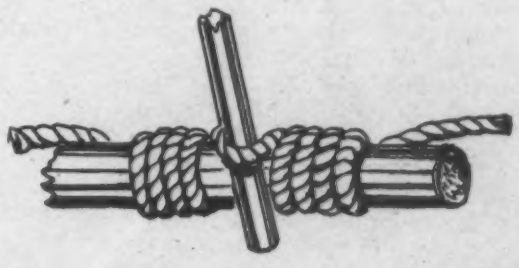
The Ignition System

It is very important to look over your electrical plant and replace any worn wires with new. Clean out the commutator with gasolene and lubricate with fresh oil or grease. If you use a magneto, clean it up, but do not take it apart, for there is no need to do this. If it needs repairing, ship it to the manufacturers, who will put it in good shape.

The contacts of the coil will probably require trimming up and readjusting. The platinum studs may be leveled up by careful filing with a very fine jeweler's file. Do not cut away more metal than absolutely necessary, and do not use an ordinary file for doing this job. Spark coils seldom give trouble if not overloaded, but the contacts must be kept clean and the vibrators should be adjusted to draw just the required amperage.

Substitute for Pipe Tongs or a Stillson

While there is nothing like having the proper tools in overhauling or taking down your motor, it sometimes happens (especially in making emergency repairs) that you may want a big pipe wrench or Stillson to start a pipe joint, when there is nothing of the kind within many miles. A makeshift appliance that will do the trick can be devised by wrapping many turns of a rope around the pipe or bar, putting a hand spike or stout stick of wood in the bight (loop) and heaving away, as shown in the cut, holding the turns of the loose ends fast with the hand to bind them. Sometimes a nut can be handled in this manner, if it has some depth to it, the coils of rope being laid one on top of the other. The amount of friction obtainable by adding turns of the rope is limited only by the space on the pipe or bar. It may be easily made great enough to break the rope. The strength of the rope is the only limit.



The Adventurer's Corner

The Skipper Comes Across with a Yarn on "Blind Luck Plus Gasolene"

By J. T. ROWLAND

WHEN the Old Timer had finished his yarn about a filibustering hike that didn't filibust and we had refreshed ourselves with a hot mug-up of coffee off the galley stove, the conversation turned with directness and unanimity to a consideration of the rotten, beastly, nasty and generally vituperable run of bad weather which was holding us pent up in harbor, losing hour after hour of a short sub-Arctic summer on an expedition which needed more than all.

"Cut it out, boys," laughed the Chief presently; "I'm not doctor enough to relish having a case of apoplexy on my hands, and if you get much more 'het up'——— Why, shucks, we're not through, anyhow. The Skip hasn't contributed his little fragment of untruth to this Alaskan Nights Entertainment yet."

"Just for that," said I (or words to this effect), "I'll fool you and tell a really true story. That being the case, however, I'd rather tell someone else's adventure than my own. (What are you laughing at?) And the one I have in mind is the Awful Plight and Supernatural Rescue of some friends of mine who went a-cruising one summer's day along the dour and ice-girt coast of the far-away Labrador. It's no joke: this is really straight dope. The only liberty I am going to take is to disguise the vessels and people involved, and that simply because they haven't given me liberty to use their names.

"As fiction, this tale would not be worth a tinker's dam: anyone could imagine a more ingenious mystery. But, like the story of the Marie Celeste, it is the fact of its actually happening that makes it worth the telling. See if you can explain it: I never have been able to."

Blind Luck Plus Gasolene

On a particularly dirty afternoon in August several summers ago the mission launch Harmony was bucking her way northward along the extreme northeast end of Newfoundland, bound on an errand of mercy to Battle Harbor, Labrador, forty miles away across the Strait of Belle Isle (which separates Newfoundland from the mainland of Labrador). The wind was an "in-wind," and it was so loaded with dense water vapor from the ice lanes offshore that one sensed it almost as a liquid—veritable liquid air. One hesitates to use the word "fog," because we, who live on more favored shores, think of fog as something accompanied by calm. In the Northeast this is not the case: the sort of fog which the Harmony plowed through that day had half a gale of wind behind it. In effect it was more like a blinding snow storm than a civilized fog.

The vessel was well designed for heavy weather, with buoyant ends and plenty of freeboard fore and aft, so she made little trouble of the sea; and so long as nothing went wrong with her powerful, heavy-duty, 3-cylinder motor stowed away below decks, which consumed distillate and produced directible motion, the problem of Harmony's safety was purely and simply one of pilotage.

This, however, was no simple one. Altho' still running parallel to the coast the skipper had had his last and only available glimpse of land three hours before, when he put boldly out to sea from behind Cape St. Anthony. Since then he had been carrying the wind about four points off his starboard bow—meeting the sea at such an angle that its sling kept the helmsman sweating to hold within a dozen degrees of the course. Then there was the error due to leeway, which in thick weather one can never be sure he has allowed for with even approximate correctness, and worse still were the confusing detours necessitated by floating ice.

This latter element was a study in itself. Fortunately for navigators, the ice on this part of the coast consists in the main of bergs rather than floes, and in thick weather one can hear the sea breaking against the weather side of a berg usually in time to avoid it—if he listens sharp and is not going ahead too fast. Here is one respect at least in which a handy 50-footer like the Harmony has a great advantage over the ocean-going steamship. As, however, one can never be quite sure of the extent of a berg or of the presence or absence of "calves" streaming away from it to leeward, it is prudent in dodging it to make quite a wide detour; and not many such are needed to ball up one's navigation hopelessly, because there are frequently detours within detours, and at the time of making them one is more interested in watching for ice than anything else.

For the moment course and distance are forgotten. It is:

"Pay off a little more—a lit-t-le m-o-r-e. There! That ought to do it. How are you headed now? Northwest? Very well; note the time."

Lookout: "There's another one on the lee bow, sir! Heard it clear."

"What! (To helmsman) Hard up your helm! HARD UP; are you deaf! Full speed astern! (To lookout) Where is that second berg, do you hear it still?"

Lookout (dubiously): "No-o, sir; but sure I——"

"Shucks, we'd be atop it by this if there'd been anything there. (To helmsman) Let her go ahead again. Hold as you are." Two or three tense minutes pass. "Well, we must be past danger now. Get back on your original course; yes, that's it. (Under his breath) Now how much should I allow for that blamed jockeying match, anyhow?"

Rather confusing, is it not?

At 4 P. M. Dr. M., in command of the Harmony, placed his ship by dead reckoning six miles east from Cape Bauld, the northeast promontory of Newfoundland. Altho' the earlier part of the day had been no sinecure, he realized that his real troubles were only just getting ready to begin. Nowhere on the North Atlantic coast, perhaps nowhere in the world, is a more irregular and confusing mess of currents to be met with than those disporting themselves between the flaring shores of the mouth of the Strait of Belle Isle. Connecting as it does the Atlantic Ocean with the broad inland sea named Gulf of St. Lawrence, this strait serves as sluiceway to an ever-shifting ebb and flow affected by every change of wind or atmospheric pressure or any of their myriad combinations over the water bodies it joins. Its tides are as fickle as a breeze and its currents vastly harder to be aware of and to estimate.

All this and much more Dr. M. knew full well, so he did the only thing any man can do under such circumstances—ignored them altogether. Presently the lumpy water told him that the "area of strong currents" was entered. The doctor-skipper shrugged

his shoulders and held stoically to his uncorrected course for Battle Harbor, forty miles away across the strait. Before he arrived anywhere near there so many streams and counter-streams would have been encountered that to attempt to correct for them all would be worse than folly: the only hope was to hold steadfastly to one heading and trust to the multitude of currents to offset each other's action. Maybe they would, maybe not—at any rate, there was nothing *he* could do about it. It would be time to worry about that when they should be drawing in upon the land; for the present, he had his hands full keeping a sharp lookout for ice and jockeying the little craft through frequent vicious tide rips which overran the heavy sea heaving in from mid-ocean.

An hour Harmony passed most unhappily, biting her way savagely through the seas. No matter how many she downed or craftily squirmed past there was always another deep trough under her forefoot or another threatening crest overtopping her stem. Her decks were swept clean, her pilot house inundated, her galley flooded (thanks to a forgotten ventilator) and her crew well scared, but the powerful motor that was heart and soul of her still kept up its rhythmic beat unaltered. It alone was unaffected by and indifferent to such trivial externals as wind and sea. Its job was to run, and run it would, no matter what went on outside; and since *it* felt that way about things, Harmony, though groaning in complaint, had no choice but to keep on biting with peevish savagery at the opposing seas.

Two hours the men saw pass. Thank God, time was going, anyhow! Dr. M. read the taffrail log and noted with relief that the furor of the gale had not held them back much. They had made fifteen miles from Cape Bauld. Provided this was actual distance made good they should be nearly across the worst part of the strait and ought soon to feel the lee of Belle Isle. Though this island lay too far out to afford any actual shelter, its presence to windward would probably modify the sea to some slight degree and would give them a hint, at least, as to their position. It happened, indeed, that this hint was fated to come sooner than expected.

Now it must be explained that Harmony carried wireless. She was ketch-rigged, and while her sail power was negligible, the masts served as binding posts for the aerial of a youthful wireless installation—less powerful than that possessed by many a ten-year-old boy nowadays, but a wireless none the less. Also, there was then a Government wireless station at the South Cape of Belle Isle.

There is nothing so trying at a time of stress as the absence of active duties to occupy's one mind. Probably it was chiefly in order to busy himself about something that the young chap who rated Operator as well as Chief Engineer on the Harmony dropped into the pilot house at about this time and asked Dr. M. if he should try to speak to Belle Isle.

"Yes," said the doctor, who was a practical psychologist, "Ask him if there was much ice on the north side of the straits before the fog shut in and then see if he can get me a report on that laparotomy at the Battle Harbor hospital this morning. When you've done that you might ask him for any press stuff that he's at liberty to give out."

"Very good, sir," replied the boy, with the weighty seriousness of youth.

The doctor smiled discreetly and turned back to his unremitting study of the swirling mist ahead. Through the roar of wind and hiss of spume he heard the wireless "cut in" and a moment later the crackling spark hailed its fellow *geni* of Belle Isle:

Tck—tck—tck——tck-tck,
tck—tck—tck
——tck, tck—tck——tck—tck! and so on,

THE STRAITS OF BELLE ISLE AND NORTHERN NEWFOUNDLAND

with an insistence which seemed positively ill bred.

When it stopped the doctor knew his man was listening. The little comedy of the wireless soon slipped from his mind. Without relaxing in the least his vigilant lookout, Dr. M. allowed the reasoning portion of his mind to lose itself in contemplation of professional work waiting for him at Battle. Minutes had passed — when suddenly through the haze of sense burst a shock, almost electric in effect:

"Doctor! my God, doctor!" It was the Operator's voice, high pitched in excitement. "He says *we're outside Belle Isle!*" It continued: "He can see us—he says he can see us!"

"What the devil!" (Even Dr. M.'s customary calm snapped.) "What's that rot?—*outside* Belle Isle! You're childish—get hold of yourself!"

"No, sir; that's just what B. I. said. I made him repeat it to make sure——. Says he can see our masthead once in a while above the fog." The boy turned scared eyes to the blank fog. "Why, my God, at that rate we must be going clear out to sea!"

Dr. M. looked sharply at him. The fact of his having got the message repeated before giving an alarm had not escaped the older man's keen notice. He laid a steadying hand on the boy's shoulder.

"There must be some mistake," he said kindly. "We could not possibly be so far out of our course—and to windward at that. Call him again and ask how he knows it's us he sees. *I* don't believe our little sticks show above this fog at all."

Despite the tone of assurance, Dr. M. was not entirely without fears. In these currents anything was possible, and if Harmony really had got so far out of her course it meant at least a very bad time picking up the land (pure luck where she fetched it), or else the wretched alternative of lying hove-to over night hoping for a change of wind.

"Wireless" had been busy again. With the first shock past, the boy steadied himself. This time he handed Dr. M. a regulation blank upon which the following message was written:

Dr. M—., Harmony.

Believe can see your main truck with blue mission pennant about five miles S. S. E. Appear going due East out to sea.

B(elle) I(sle)

The doctor read this twice over, pursed his lips and whistled softly.

"That's different, Chief," he said. "If we're actually *headed out to sea* our compass must have gone wrong, and that, of course, would explain the whole business. Thank God he saw us!"

"Yes, sir," the boy grinned; "the nearest land this way is Ireland, ain't it?"

The doctor did not answer. He was busy with the chart laying off his course to Battle Harbor from a point approximately five miles south-southeast of South Cape and then converting that course to the corrected reading for a compass of nearly a quadrant's deviation.

Having worked out his supposedly corrected course, he gave orders to place Harmony's head upon it. The result was a deflection of nearly ninety degrees, putting the vessel practically before the wind.

At any rate, the going was better this way! Harmony stopped her shivering and began rushing ahead in long swoops like the flight of a swallow, as the following seas alternately lifted and dropped away under her stern.

"Keep a bright lookout, now, and listen sharp," Dr. M. shouted presently to a yellow-clad man who had balanced forward and stood clinging to the jib-stay. "If there's any ice about we'll be right on top of it before——. WHAT'S THAT?"

The man turned and glanced nervously over his shoulder.

"I didn't sense nothin', sir."

"Damn it!" muttered the doctor, "has this job got me hearing things?" Then to the lookout, "It was a gull, I guess."

THE FOG-SHROUDED, BOLD, WICKED COAST OF NEWFOUNDLAND

THE WEATHER SIDE OF A BERG IN A GALE IS A POOR PLACE FOR A MOTOR BOAT

Harmony volplaned down another misty, long slope—her engine speeding 'way above its rated six hundred revolutions per minute as the bow wave climbed her frothing stem. At the bottom of the hill she checked, hung a moment poised while her very wake seemed to be overtaking her, then just as the crest of the next sea was at the point of breaking across her stern she roused herself, sprang fleetly ahead and sped off upon another wild, hilarious coast into a distant chasm, whose bottom lay hidden from view in fog and spume.

Each such rush gained her perhaps a hundred yards. She had completed a dozen odd when there came from nowhere in particular a sound which made the scalp tingle under Dr. M.'s thick shock of iron-grey hair. It was a weird, hoarse, all-pervading groan, as though the fog itself had suddenly become articulate—neither cry nor shriek nor howl, yet unlike the noise made by any mechanical contrivance that the good doctor had ever heard.

"There," he cried, "we're nearer to it! That's what I heard before. What in the world is it?"

"Pull yer whistle, sir!" shouted the lookout, peering ahead. The doctor obeyed and instinctively he rang his engine to STOP.

Harmony checked, drifted easily before the wind, and next moment, as though in answer, the strange sound burst out again, still louder, its source evidently close at hand.

The lookout waved his free arm and shouted; then he turned to the pilot house:

"Bear away, sir!—bear away a bit; you'll be running her down!"

"Run *what* down?" yelled the doctor, struggling with his wheel; but almost before the words had been uttered there sprang up before his startled eyes a vision of human forms standing up on the water, gesticulating wildly and apparently shouting at the top of their lungs, though no sound of their voices reached him.

The apparition lay a little to one side, and as she swept past the doctor saw that the men were real men and that they stood not upon the water, but upon something low and white, over which the seas made a clean breach. It was a sailing vessel, a yacht, dismasted; and he must have blundered upon her just in the nick of time, for apparently she lay nearly ready to founder.

A moment later, however, the wreck faded from view in a denser billow of fog. Dr. M. signalled HALF SPEED to his engine room and waited, with every sense alert, as the sturdy launch forged slowly ahead.

The moments passed very slowly and he was beginning to fear that he had missed her when there burst out so suddenly that he jerked the telegraph handle to FULL SPEED ASTERN, the same eerie wail which had affected him so oddly a few minutes before.

"Fish horn," the doctor grunted with a grin; then he bellowed to windward, "Hello, there! Stand by to take my line."

Followed a moment's silence; then a startled shout from right alongside, "Stop her! stop her! you're right on top of us!" And the fog, melting, disclosed a low, white hull almost under the Harmony's forefoot as she topped a seething crest.

In a jiffy the two men on the launch's foredeck had flung themselves upon the end of a stout line cast to them from the wreck and made it fast to the forward bitts; then with her engines still racing astern, Harmony drew back into the mist and the hawser, trailing snakily over the gray water, was her sole link to the vanished wraith to windward.

"Good work, sir!" shouted the lookout.

"Good luck," the doctor corrected.

"STOP!" the telegraph commanded.

Presently the hawser fetched up with a jerk that lifted half its length out of water, and Harmony swung easily head to wind.

Down the gale came a shout:

"Stand by there! The first man's in the water." Unable to make himself heard against the wind, the doctor shrieked out an answering hail with his whistle.

The engineer, coming on deck a moment later, saw two figures huddled in the bows—one of them grasping a boat-hook—waiting to haul on board a man who was racing down out of the mist, hauling himself vigorously hand-over-hand along a line which alternately tautened and slacked as the launch's bows rose and fell to the sea.

Ten feet from the launch he lost hold of the hawser, disappeared under water, came up almost under the stem, seized the end of the boat-hook and was quickly towed alongside and hauled in over the rail—gasping and dazed but unhurt.

Before the next man came down Dr. M. wound his wheel hard a-port and sent the engine slow ahead so as to make a lee side to the launch. After that it was easier: within a quarter of an hour he had the six men from the erstwhile yacht Hesper safe and sound in his own cabin. Then he steamed around to windward of her, and with the line shifted to his after bitts went ahead just fast enough to hold both vessels up into the wind.

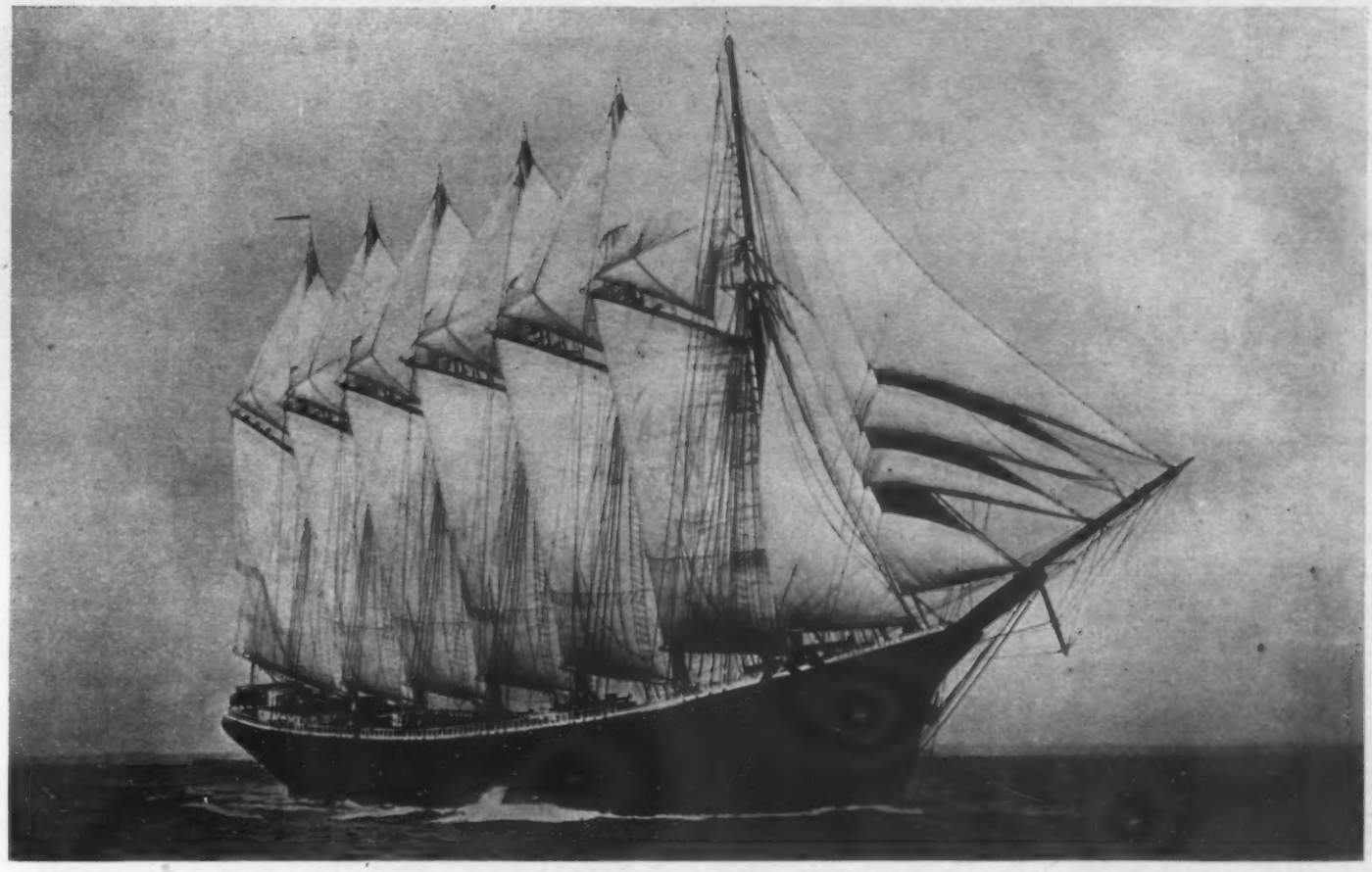
Alone in his pilot house, a vague sense of uneasiness assailed the doctor. What should he do next? Common sense told him to wear around and resume his course down wind with the dismasted yacht in tow. If she followed, well and good; if not, it would be a simple matter to set her adrift.

It was not consideration for the fate of the Hesper that chiefly troubled him, however. Ever since changing his course at receipt of Belle Isle's message, Dr. M. had doubted the wisdom of his action. Now the doubt had taken definite form. On coming over the side, half delirious, one of the men from Hesper shouted something about "easterly gale." As though this had been a signal devised by Providence to open his eyes to his blunder (its purpose being accomplished), Dr. M. no sooner heard the words than he realized that the wind was without doubt, still from the east, and therefore, that to run down it would carry him not across the straits to Battle Harbor, but directly in upon the dreaded lee shore of Newfoundland.

In other words, he had been upon his proper course in the first place and must bring the wind back to its old bearing on his starboard bow if he wished to win the north shore of the straits.

This, however, raised some puzzling questions: If he had been upon the right heading to begin with, how did he ever get so far off his course that Belle Isle could see him? Or had Belle Isle not actually seen the Harmony at all? Finally, if Belle Isle had not seen him and he had been wandering about on right-angle headings as the

(*Continued on page* 218)



THE SIX-MASTER GEO. W. WELLS, WHICH STRANDED AND WAS LOST IN SEPTEMBER, 1913, ON OCRAKOKE ISLAND, N. C.

Shipshape Ships and Others

By DAVID A. WASSON

"IF you had your choice, what kind of vessel would you pick to take around the world most comfortably and safely?" I once asked Capt. George H. Tapley, of West Brooksville, Me.

"A bark of about six hundred tons," he replied promptly.

And Cap'n George is a high authority. He is the last survivor of the famous eight Tapley brothers of Brooksville, seven of whom went to sea and rose to the command of as many fine, old square-riggers in the foreign trade.

I knew that the bright lexicon of the old captain's experience held no such word as steamer, but I was surprised that he should put the favored tonnage of his beloved sailing craft so low. I am no longer surprised, but it is only recently that I have become enlightened.

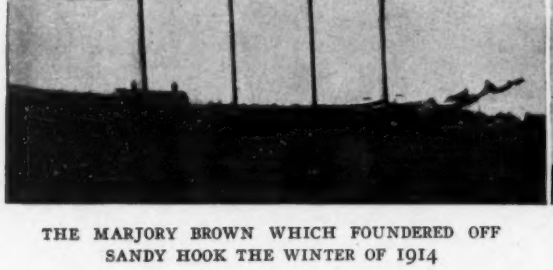
END OF THE FOUR-MASTER ALICE E. CLARK IN PENOBSCOT BAY

The late Capt. Charles A. Drew, one of the oldest towboat men on the coast at the time of his death, went out of Portsmouth in his sturdy tug Piscataqua to bring in the four-masted coal-laden schooner William B. Palmer, which had anchored during the night inside the Isles of Shoals. There was a fresh easterly that tumbled in a long, heavy sea from offshore, but Capt. Drew got his prize into port, all right. That isn't the story. He solemnly told me afterward that when he ranged up alongside the plunging Palmer to take a line ahead he could squint along her bulwarks and see her long sheer undulate perceptibly as each big sea heaved up under her amidships. Here let me say that the William was the biggest four-master, but one, ever built, and that she laid her bones on Nantucket Shoals four years ago. With a vessel one need have no scruples at disregarding the adage, *"De mortuis nil nisi bonum,"* which, translated, means, "Of the dead say nothing but good."

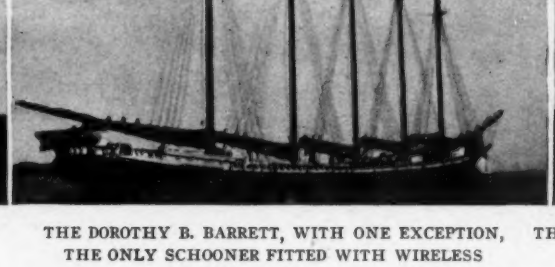
I rather thought Cap'n Drew was joshing me 'til, a while later, I saw another big four-master stuck over a tide on the flats at Portsmouth, with her stern in deep water. As the tide fell her stern sagged till she was badly hogged amidships, and one who didn't know the elastic properties of these lengthy hookers would have sworn she was going to break in two. But her steam pumps kept the water down in her hold—little good any of them would be without steam pumps, and big ones at that. When the tugs pulled her off with the next flood, the ungainly hump in her sheer had disappeared. After she unloaded she was not hauled out at the nearest railway for examination and repairs; she went blithely to sea. This schooner is still afloat and presumably as limber as ever; so I won't frighten off prospective shippers by naming her.

A June gale wrecked the new five-masted schooner Washington B. Thomas on her second trip on Stratton Island, near Cape

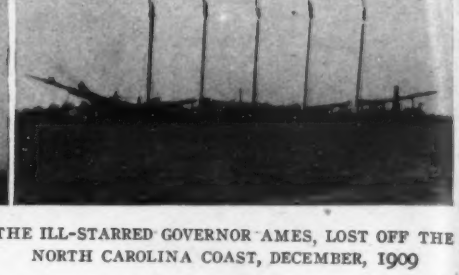
THE MALCOLM BAXTER, JR., LOADED RAILS UNDER WITH COAL FROM NORFOLK TO BOSTON



THE MARJORY BROWN WHICH FOUNDERED OFF SANDY HOOK THE WINTER OF 1914



THE DOROTHY B. BARRETT, WITH ONE EXCEPTION, THE ONLY SCHOONER FITTED WITH WIRELESS



THE ILL-STARRED GOVERNOR AMES, LOST OFF THE NORTH CAROLINA COAST, DECEMBER, 1909

Elizabeth, Me. In the same breeze the little "blue-nose" West India trader V. T. H. piled up on Sea Point, off Kittery; both in the worst places they could have picked. A week after the Thomas stranded we started on a little cruise down east, and skimned the coast to get a good look at the great craft. Two masts were standing and her hull was gone from amidships aft. When we returned a month later nothing could be seen of the wreck; the summer breezes had battered the big schooner to bits. But the V. T. H., or a good-sized piece of her, is still piled on Sea Point after eleven years.

In one gale last winter three of the largest schooners on the coast were removed from the shipping lists. All of them should have weathered it easily. The five-master Prescott Palmer, oldest of the trio, was built in 1902, and twelve years should be virile youth for a well-built windjammer. But after losing her sails off Cape Cod and being headed for the Gulf Stream to get rid of ice that made on her decks, she opened up and foundered 250 miles northwest of Bermuda, the crew being taken off by a steamer.

As for the other two, also struck by the gale off the Cape, they made a still feebler resistance. The five-year-old Fuller Palmer and the ten-year-old Grace A. Martin, both five-stickers, simply strained like immense baskets as the zero nor'wester screeched out of Boston Bay and forced them from the shelter of Cape Cod. The pair of them were abandoned in a sinking condition many miles at sea, and that any of their crews escaped was more a miracle than luck.

Some summers ago I climbed down a ladder into the clean, shaving-strewn hold of a fine-looking new five-masted schooner, all ready to slide off the stocks at a shipyard in a little Maine town. She certainly looked as if she were put together to stay. For eight years the big craft carried coal cargoes up the Atlantic Coast, loaded "rails to the water" winter and summer. Then one day her captain "yanked his dunnage" upon her arrival at an Eastern port with a cargo from Norfolk.

He confided his woes freely to me and the captain of the tug that towed him in. He wouldn't risk his life in her any longer, he said. He was afraid she'd slide out from under him any day. She'd straightened out so that all the butts in her deck and topsides had opened, and they had driven wooden "gumps" into them so they'd have something to caulk against. If he ever got caught with her in a breeze o' wind, he said, he'd never dare to head her offshore. No, sir-ee! He'd try to plunk her on the nearest coast!

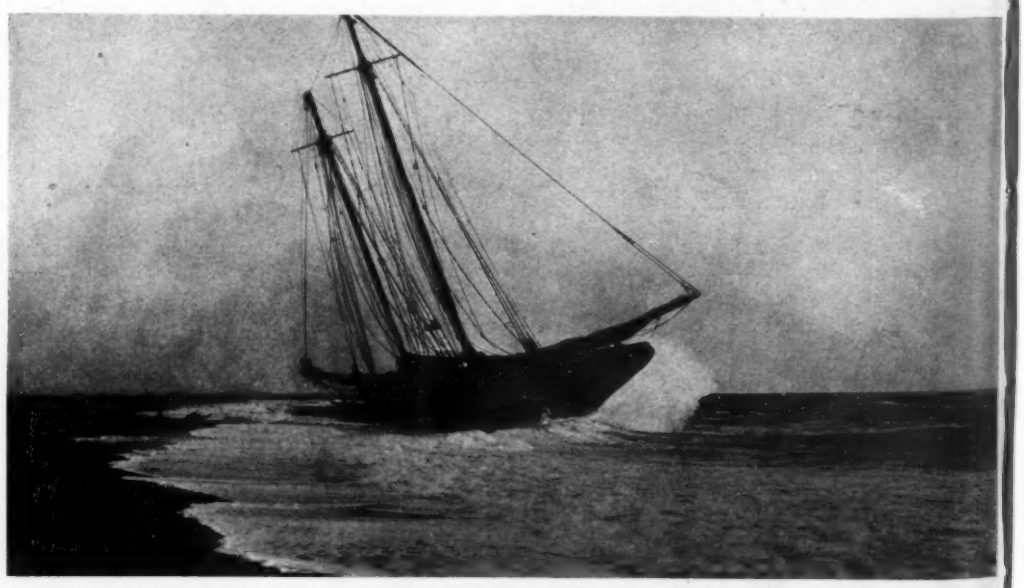
When I was aboard this vessel on the stocks, another sister ship was partly framed up close beside her. She came out next season and was called the Samuel J. Goucher. In November, 1911, the Goucher blundered on to a ledge in a fog and calm off Portsmouth, N. H. Easy enough to lighter her and pull her off in smooth weather, you'd think? Well, the Goucher lightered herself, but not in the most approved fashion.

When the tide dropped she split open like a titanic watermelon and spilled her 4,000 tons of coal out through the bottom. In a couple of weeks she came off the ledge of her own accord, and revenue cutters and tugs towed what was left of her into Portsmouth harbor, where she was dynamited.

The fact is that wooden shipbuilding, though still far from being a thing of the past, is a lost art as far as the Atlantic Coast is concerned. Big schooners and barges built in late years are framed with short-lived Virginia oak, which is not to be compared with the tough New England pasture white oak of the early days. And first-class ships of that time were fastened on bilges and at plank-butts with copper or yellow metal, forelocked over washers. The big modern wooden craft are fastened with brittle iron bolts, and riveting is practically unknown.

Comparisons may be odious, but they are illuminating. The aforementioned Samuel J. Goucher, 2,547 tons, had frames only eight by twelve inches in size, and they were built in pairs spaced eight inches apart and that. The three-masted schooner Annie F. Conlon,, 591 tons, built at Portsmouth, N. H., in 1882, and still running in West Indian trade in perfect condition, has white oak frames fourteen by fourteen inches built in pairs spaced three inches apart. I got these figures from Capt. Horace M. Seward, of Kittery Point, Me., who had the Conlon built, commanded her for many years, still owns a large part of her, and bristles up like a porcupine at any suggestion that the stout old schooner may be beginning to show the effect of her thirty-two years.

I don't mean to malign the American windjammer unduly. I know that there are as many fine, strong ships as abortions. For instance, take the four-master R. P. Perdleton, twenty-eight years old. She doesn't look as if she had spent a year so high up on the beach at Southport, N. C., that wreckers thought it was either a case o



PEAKED HILL ON CAPE COD HAS CAUGHT MANY A FINE SCHOONER, EVEN THE FISHERMEN

abandoning her or using her for a flower bed. She did that, though, and she's sound as a nut yet, for they put vessels together for keeps when she was built, too. She wasn't the Pendleton then, but the Cassie F. Bronson, and after that the Gilbert Brothers. A regular sea-going chameleon, the Pendleton.

And something nice ought to be said about the four-master Benjamin F. Poole, another of the early big fellows which met an unknown fate last spring on a voyage from Wilmington, N. C., to New York. The Poole was once high and dry on Virginia Beach for over a year and actually used as a boarding house, so far above tidewater had a screeching easterly gale driven her. Finally the wreckers released her by digging a small-sized Panama Canal to her sandy berth, and at twenty-six years of age the Poole made a voyage to the River Plate.

Then there was the pioneer five-master Governor Ames. She worked hard for twenty-two years, went around Cape Horn several times, and only succumbed when a December hurricane mashed her on Wimble Shoal, off the Carolina coast, five winters gone, and drowned all hands but one. There was no half-way business about her taking off, either; no curling fondly around an obstructing rock or collapsing of her own weight. When I last saw the Ames, a few trips before she was lost, her sheer was as fine and true as the day she was launched.

I hate to see such craft disappearing and giving way to steam-driven competitors as badly as the next lover of swelling canvas. The quarrel I'm trying to pick is with the builders who, in late years, have added to the fleet, and, along with those responsible for the Titanics and Empress of Irelands, lessened the public confidence in it.

My great-grandfather owned a big fleet of sailing vessels, but I'm sure he invested no money in ships which were notoriously unfit to go to sea. In fact, he was so sure of their soundness that he refused to insure so much as a timber-head; an ill-advised proceeding, as anyone will admit.

For that matter, I know of one firm which owns to-day a controlling interest in some seventy sailing vessels without insuring its holdings; but this remissness is not due to confidence in the big windjammers. In these days, which are for the sailing ships only a long, losing fight against steam, this concern can make money only by driving the fleet for all it's worth, and squeezing in enough extra trips to pay for the mischief done when some poor skipper stubs his toe.

That's one way of looking at it; and then, again, some owners may prefer their schooners supple and yielding in texture. They may like them built on the principle of the reed that won out by lying down and taking its medicine, while the haughty oak stood up to the storm and tried to bluff it out, with the well-known dire results. At any rate, the five-masted schooner George P. Hudson, with her back humped in so many places that it resembled the vertebræ of a sea serpent, went through enough in her fourteen years of existence to ruin the constitution of a stone quay.

The Hudson, originally the Fannie Palmer, began her career of misbehavior by failing to find the keyhole of Chesapeake Bay and ramming up into the sands of Virginia Beach, which is quite the proper sequel. The stumps of an ancient submerged forest stabbed up through her bottom, and it was no small wrecking feat to get her out of the scrape.

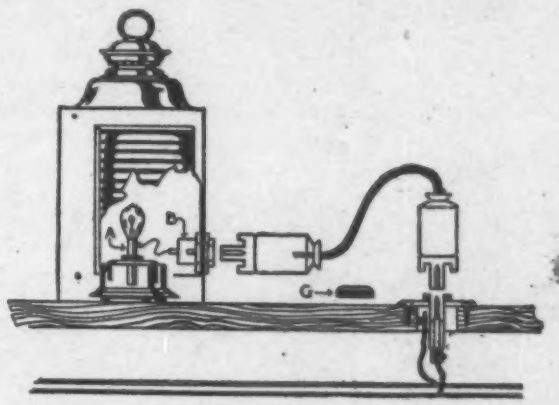
After that, with the requisite intervals for getting her breath, the rechristened hooker proceeded to get ashore and full of water on the back side of Long Island, to get partly burned at Newport News, to get blown a few hundred miles offshore in a winter nor'west gale, to plow into Peaked Hill Bar off Cape Cod when loaded deep with coal, to have her stern nearly cut off by a tramp steamer in New York Bay, and later to retaliate by ramming the five-master Margaret Haskell in Vineyard Sound last winter.

On the night of July 11, 1914, while bound from Philadelphia to Portsmouth with coal, the Hudson was run into by the steamer Middlesex near Pollock Rip, and sank immediately in thirteen fathoms, taking Captain John Thomas and one seaman down with her. It would surprise few shipmasters on the Atlantic Coast if some dark night offshore they met an incandescent George P. Hudson, a Flying Dutchman *a la mode*.

EMDEN, THE SEA ROVER. FROM A PAINTING BY WILLY STOWER

Electric Sidelight Connection

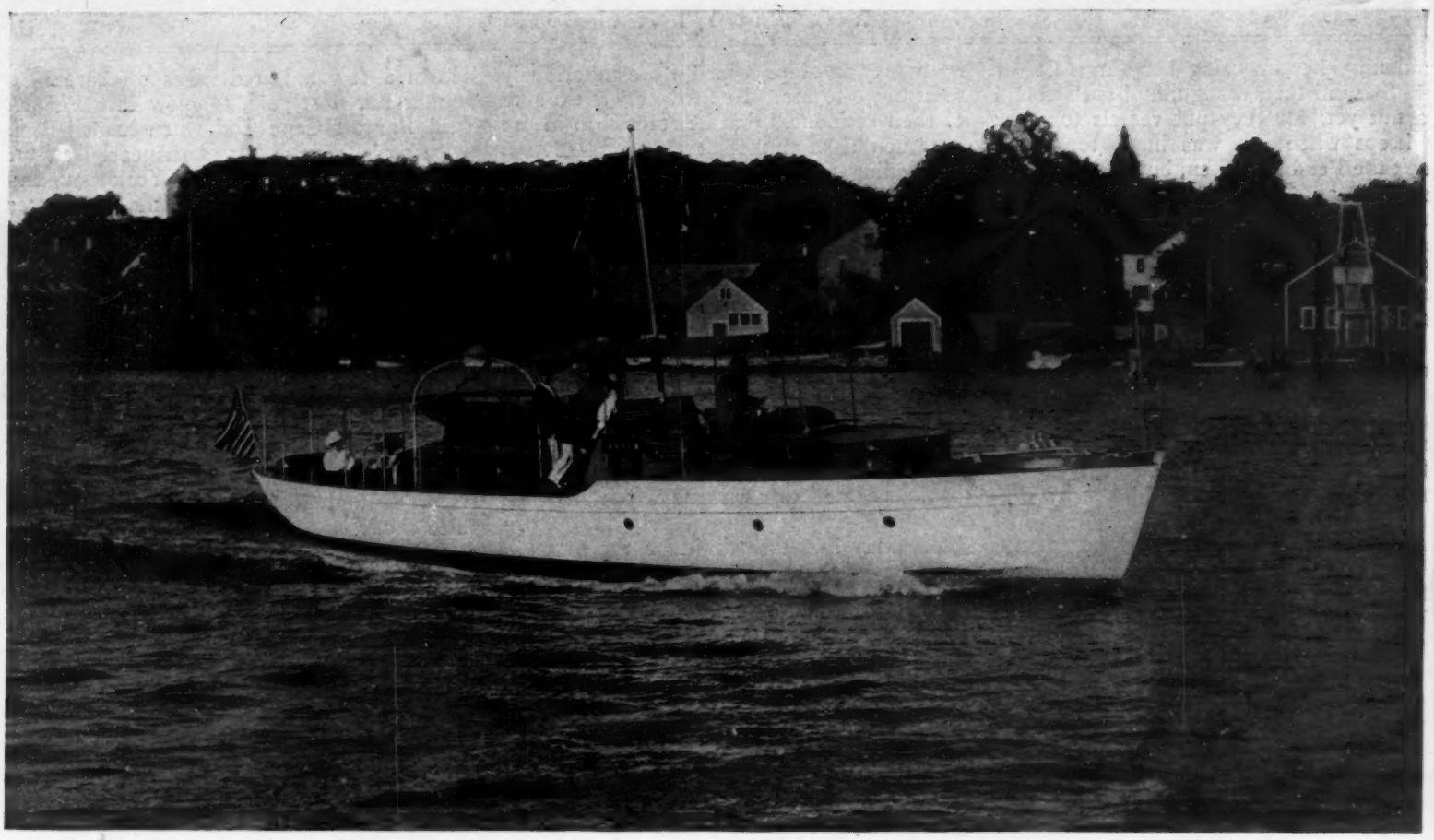
Electric side lights have so many advantages over the kerosene or signal oil type, which are constantly going out in anything over a fifteen-mile breeze, that practically all power boats use them nowadays. They could be used also much more universally than they are on auxiliary powered sailing craft, where there is a storage battery,



dynamo, or where the boat is lighted by electricity. Waterproof deck plugs and waterproof wiring are on the market, so that the outfit is not only neat and clean but is practicable in any weather.

Sailing Great Lakes in Old Days

THE following letter from one of the old readers of YACHTING, who sailed the Great Lakes as a boy many years ago, is interesting: "The picture of the little clipper-bowed brigantine on a recent number of YACHTING carried me back to the old days, as she looked almost a duplicate of a vessel I sailed on in 1859 on Lake Ontario. This vessel was the Mayflower, Captain Peter July, of Alexandria Bay. I was seventeen years old and acted as cook on the trip—which was somewhat strenuous, at least for a boy of that age. We left Oswego late in the season for Hamilton, Ontario, to load for Ogdensburg. A head wind drove us across the lake to seek shelter under Timber Island, where we lay for a shift of wind. It finally



TWO SIDES OF MOTOR BOATING. CRUISING ALONG THE NEW ENGLAND COAST

came so that we could lay our course up the lake. A short time after getting underway the wind came in strong northwest, with rain, which froze as it fell. In short order the little ship was iced up for fair and with shortened canvas was going sideways about as fast as any other way. The conversation of the skipper and crew seemed calculated to try the nerve of the boy cook, the captain saying that we should probably fetch the south shore of the lake. The kid had signed articles for the voyage and said he would stay as long as the rest did.

"We kept a good, hot fire in the cabin and relieved the wheel every half hour and at daylight we sighted Toronto. We put our helm up, filled away, and ran to Hamilton.

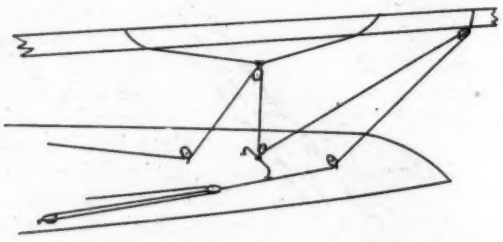
"Where has the little ship gone to and the many others of our Great Lakes fleet? I have counted sixty sailing from Oswego one afternoon and as many more left in the harbor. I crossed from "Ducks" to Charlotte only a short time ago, and the log shows that we only passed a loon, a duck and a dead dog. Times have changed since I went to sea, and so have boats.—An Old-Timer who always loved it. E. W. DELANO.

Limit of a Sailing Yacht's Speed

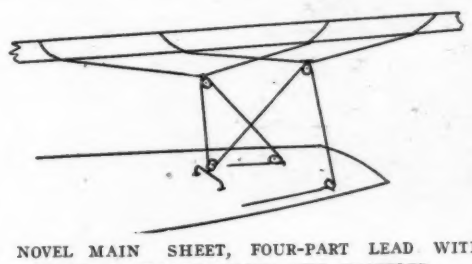
WHILE the absolute limit of a sailing yacht's speed is, naturally, the speed of the wind, there are many other forces which affect and in a way limit the speed. The resistance to be overcome by the wind pressure on a yacht's sails is made up principally of (1) Skin friction; (2) Force absorbed in raising divergent waves; (3) Forces absorbed in raising transverse waves. In addition to these are also eddies created by abrupt terminations, wind resistance of sails and rigging, etc.

The cut herewith shows the divergent and transverse waves set up by a vessel in motion, the waves being exaggerated somewhat for clearness. The higher the speed the more prominent become the transverse series of waves and the greater drag they exert on the hull. The fuller the form of the yacht the lower the speed at which this occurs.

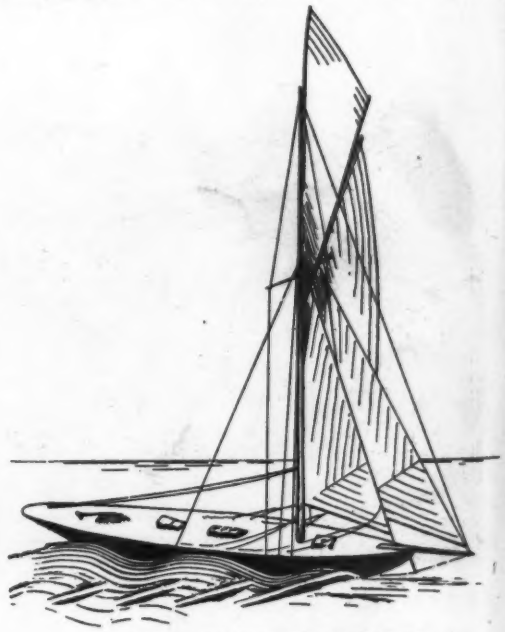
The *practical* limit of a sailing vessel's speed is governed by the amount of sail possible to carry, which is a question of safety and seaworthiness. The larger the vessel the greater the theoretical and maximum speed. A useful rule for arriving at an approximate determination of the speed is the following, though, of course, difference in shape and model makes exceptions in the cases of individual boats: Maximum speed $= 1.4$ to $1.5 \times \sqrt{\text{length of waterline}}$, is the expression of what has been found by experiment to be practically the maximum speed obtainable with the biggest amount of sail spreadable on a given length of yacht; resistance increasing so quickly for higher speeds as to entail tremendous and dangerously impracticable increase in sail area.



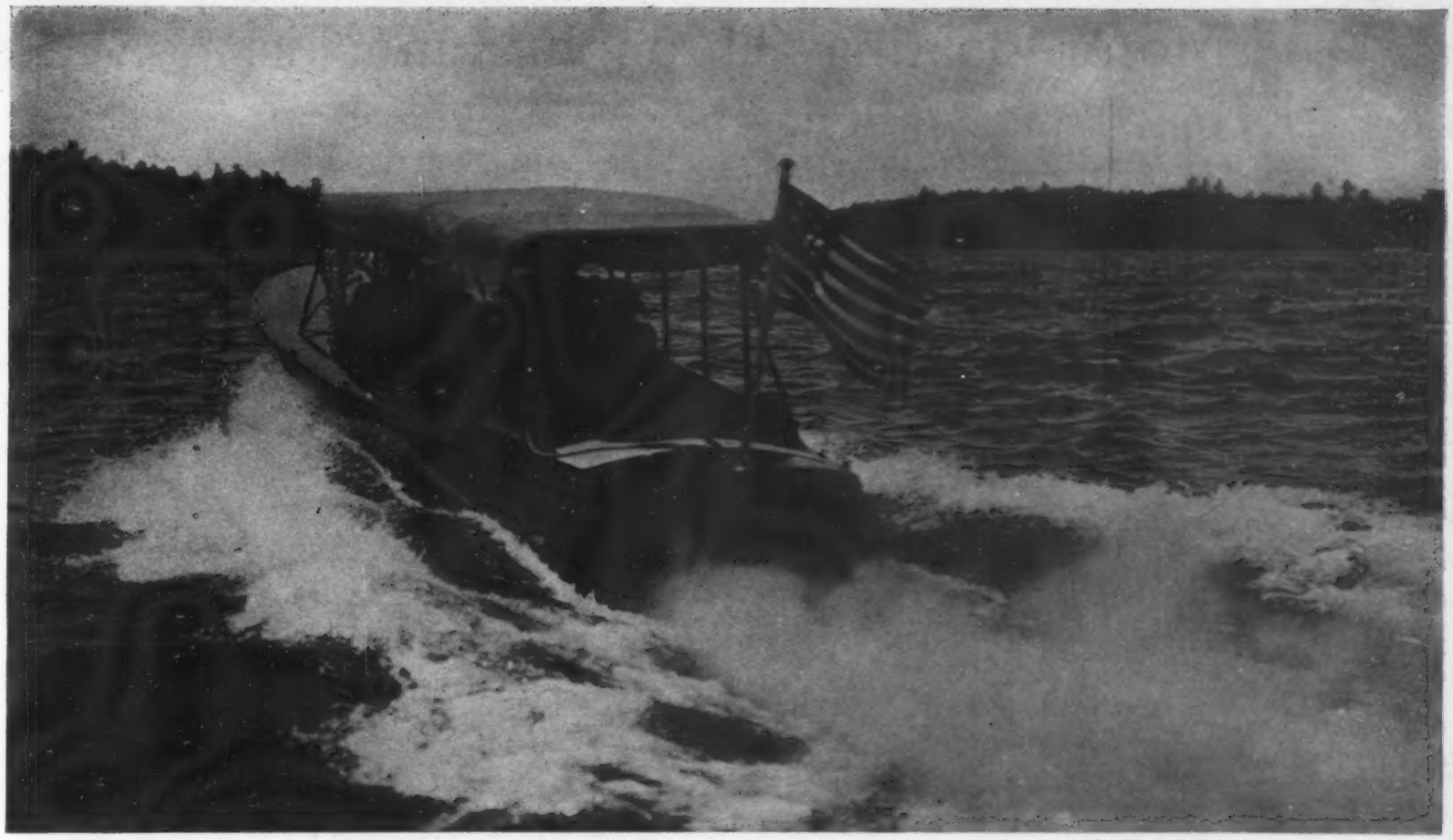
A MAIN SHEET LEAD, SHOWING JIG, OR PURCHASE, RIGGED ON ONE END WITH THE OTHER END GIVING A STRAIGHT LEAD TO COCKPIT



A NOVEL MAIN SHEET, FOUR-PART LEAD WITH QUARTER BLOCKS ABAFT THE TRAVELER



DIVERGENT AND TRANSVERSE WAVES



THE CHARM OF THE ST. LAWRENCE AND THE MANY INLAND STREAMS AND LAKES ARE MOST FULLY APPRECIATED WITH A MOTOR BOAT

Trident, A "Yachting" Yawl

One of the new boats on San Francisco Bay last year was the 41-foot yawl Trident. As the boat was built at home by some of YACHTING'S readers we take considerable pride in the craft, and are glad to be able to publish a picture and a brief description of her.

She was built by Messrs. H. B. Richardson and Richard Vosbrink, aided by a friend. The boat, as will be seen, is an exceedingly fine looking craft and she is a workmanlike job in every particular. This was their first boat-building job, but as two of the partners were patternmakers the work did not feaze them any. They write that the boat has been inspected by most of the members of the Corinthian Yacht Club and quite a number of boat builders, and they all complimented the amateur builders.

It took the builders 23 months, working four nights a week and on Sundays and holidays to finish her up. She is a centerboard boat and she has shown a good turn of speed. With a few alterations in rig, which the owners have in mind, they expect to do still better next year.

In describing the boat the owners say: "We have a large cockpit and find it very comfortable, as the boat is dry in all kinds of weather. The cabin is small, but we have so arranged it as to get all the room possible. There is 6 feet 2 inches headroom. The bunks run clear across the cabin forward and extend about 3 feet under forward deck, making plenty of room for four on a side. We accommodated ten on a four-day cruise to Vallejo, and all slept on the cushions. Many 50-foot boats couldn't do that. The cabin is finished in black walnut panels varnished and rubbed, with an air port in each alternate panel. We have six electric lights in the cabin, one in the toilet and one in the galley, two under the cockpit and a plug forward for riding light or portable; the running lights are arranged for either oil or electricity. We have an electrician in the crew, hence the extravagance. The lights are run by storage battery."

BLOWN OUT OF THE BOLT ROPE. ALL THAT WAS LEFT OF A FORE-STAYSAIL ON A WINTER FISHING TRIP

TRIDENT, SAN FRANCISCO BAY

Motor Boating Through Kanuckia

By CLARENCE E. MULFORD

WORKING BY A STRING OF BARGES

PART IV

THE next morning a short run from our snug mooring alongside the bank below the lock at Nicholson's brought us to Burritt's Rapids and the longest level of the Rideau System, 26 miles without a lock. At the Catch All, a U-bend where driftwood collects, a missing buoy caused quick scrutiny of the chart, but we rounded the sharp bend at full speed. The river widened again and there were numbers of small islands and the stumps and weeds were still with us. Another buoy was missing at McGahey's Big Bend, but the range course took us through, and then came several dredged cuts with difficult steering between them.

Kars passed, we ranged into the locks at Black Rapids, after which we passed two very bad places in the river and reached the Hogsback, from where we got our first glimpse of Ottawa. Here there is a dam which forces the Rideau River through a chute to gain its picturesque, bowlder-strewn bed below, and at this point we forsook it and entered the last canal in the system. Passing Dow's Lake we came to a beautiful section of the canal, for on one side was a dense wall of trees and on the other a parkway that followed us almost to the basin, at Ottawa, where we moored at five o'clock. We had reached the turning-point of the cruise and felt some elation about it.

Cashing a money order on the strength of my Navigator's License, which is a handy thing to have for identification purposes, I returned to the boat, while my companions searched for a first-class grill room. I had not been there very long before I looked up to see the Engineer bearing down upon me, his face aglow.

"Come on!" he cried. "We've found a bang-up grill!"

"Music to my ears, Charley; but you certainly are a slow walker."

"I ain't used to runnin' up-hill," he grunted. "Don't get nervous; they won't tear the place down to-night."

When the Chef joined us he was late, because he had found a market that hypnotized him. The Engineer grinned up at him: "Say, but Ottawa's a nice town!"

"A lot you know about it," retorted the Chef, getting busy. "You should see that French market!"

"I'd as soon judge a city by a grill as a market," rejoined the Engineer.

"If our ice box was larger you'd have more respect for the market," growled the Chef.

That night I went up to the office of the Ottawa Forwarding Company for water and the night-watchman let me examine a chart of the Rideau hanging on the wall. It told me a few things about the Ottawa River that I was burning to know, one being that its rapids were nothing compared to those of the St. Lawrence. The level of the latter at Kingston, where we left it, was 126 feet higher than the Ottawa at Ottawa, a difference of more than a foot a mile between Ottawa and Montreal, which answered my questions about Ottawa River currents.

It rained all the following day, which made good photographs impossible; but we tramped around and soon found ourselves in the park among the Government buildings. Over a hundred feet above the river, its rocky sides covered with pines, rises the bluff whereon the Parliament buildings are located. To the west is Chaudiere Falls and the cataract. To the north is the low plain on which Hull is located, backed by a great wall of mountains. On this side, Ontario; on the other, Quebec; and between the two flows the Ottawa River, linked to the great and romantic lumber industry as is, perhaps, no other stream. With its tributaries it once was the greatest lumber highway on the face of the globe, and its earlier improvements were all due to the huge rafts of logs that swept down it.

When we returned to the boat we found the Chef cleaning house, assisted by a boy who could work to better advantage in the confined spaces of the cabin. A newspaper reporter visited us and became our host, taking us to the ball game and then to his boat club, and when we were ready to get under way he telephoned to the locks that we were coming and asked that they be held ready for us, and when we reached them we found them open, much to the rage of the captains of two tugs with tows, who were held up until we left the canal. There are eight locks here and it took us an hour to get down through them; the consideration of the tenders saved us three times that delay. Hoping to find a camp spot we sailed down the Ottawa River in the dusk and finally were forced to moor to a wharf and to cook on the boat.

This was the place where the Chef changed berths. So he could get all the air of the great out-doors he was in the habit of sleeping with his head toward the stern and as close to the door as he could get it. To appreciate this, it must be understood that the cabin had eight port holes, a big

THE CREW AT REST

skylight and a sliding companionway hatch that made another large opening in the roof. When he had come aboard he had been assigned to the lower berth because it was more in keeping with his bulk; and the smaller upper berth was picked to play locker.

It was somewhat warm in the cabin that night and the Chef remembered hearing me say that the breeze from the skylight stirred my hair while I slept, and that I rolled over until my face was almost against the open port. He decided that this would be a good night to feel some breeze, so while the Engineer and I slept he laboriously moved all the junk from the starboard upper to his berth and changed bunks. When he managed to get into his new quarters he found it a tight fit, and that the open port was blocked by the wharf, which had all the odors peculiar to wharves. Thereupon he changed back again, a sadder but wiser man, wondering how so small a place could hold so much duffle.

The Ottawa, for its greater part narrow and sluggish, flows between low, tree-covered banks of sand or clay. Deserted mills and cabins, tumble-down docks and wharves, and a scrawny vegetation lie between small villages that seem tired of their existence. The brown water itself appears forlorn; but lower down there are great expanses that are beautiful, and there are other places where the scenery delights the eye; but when it is called a tributary of the St. Lawrence, it is classified properly.

The next morning we passed Rockland, Wendover and Treadwell and then Monticello came into sight, surprising us by the light on the little island in front of it; the chart said never a word about it, but these privately-published affairs are very reticent at times. Wishing to obtain supplies we moored alongside a canal boat piled high with lumber and the Engineer and I pampered the engine while the Chef went ashore.

Seven miles below Monticello the river widened suddenly and we steered for the end of the long dock at L'Original to escape the big shoal that lies off it. The chart indicates a light at L'Original, but it must be very cleverly hidden during the day, for we could not find it even with the binocu-

SNUGLY MOORED TO THE BANK IN GRANVILLE CANAL, OTTAWA RIVER

LOOKING DOWN THE OTTAWA RIVER FROM PARLIAMENT PARK, OTTAWA

lars. Then came another narrow section of river and we saw the Long Saulte Rapids, an infant affair, which is overcome by the Granville Canal, in which we moored for the night.

We were under way early the following morning, and leaving the canal at Greeces Point we paid thirty-two cents a gallon for gasolene, which grieved us, and we were still talking about it when we came in sight of the dam at Carillon, over which two or three feet of water is often pouring. This is a dangerous place, because the dam is not easily seen from above. The entrance lies on the north bank, behind a flat island, and the approach to it is determined by the range targets on the canal wall.

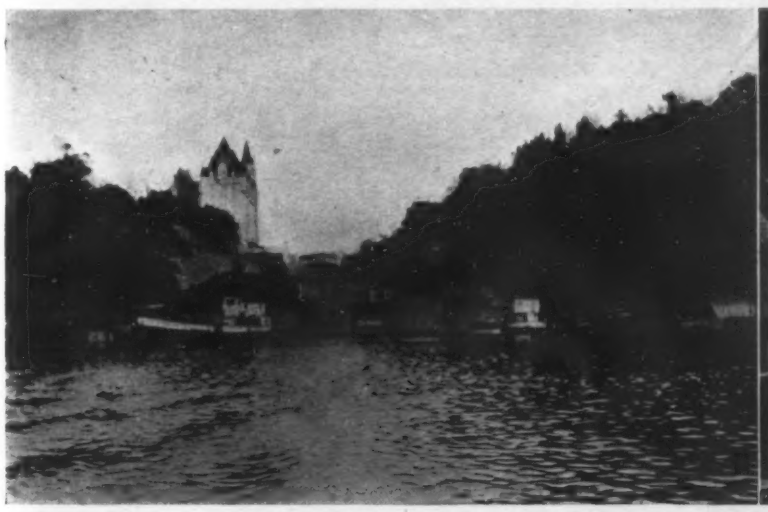
Then came a run of 25 miles without a lock, mostly through big water. At the mouth of the North River, four miles below the dam, the Ottawa makes a great curve, which ends in the Lake of Two Mountains, a beautiful sheet of water divided into two parts by the narrows at Pointe Parsons. Astern and to starboard lies a mountain, high, sharp and green; ahead off the port bow is another. Between the two is the western half of the lake, nine miles long and about five miles across its greatest lateral reach. Carillon Island and Ile Paquin lay astern, snuggling a great bed of green reeds between them. Broad off to port was St. Placide, its white church and houses standing out vividly against the bright green of the hills; and on each side of the channel are great shoals covered with weeds.

Passing Oka, with its lights and church, the eastern half of the lake, a great sheet of restless water, lay before us. There was a stiff wind blowing out of the northeast which made us pitch so much that the Chef, who was trying to sleep on the for'd deck, was driven back to the cockpit.

When Ile Cadieux was rounded we felt the sudden pull of the current as the water hurried toward the rapids to join the green flood of the St. Lawrence. A tricky channel lay ahead, full of shoals and strong cross-currents; but after a short fight we entered the lock in the canal, where indolent tenders made us lose time. Out of the short canal, we dashed across the swift water at the foot of the rapids and passed between the two lines of cribwork, which flanked a dredged channel across a weedy bar. Following the spars and ranging away from Sherringham Park we passed Bowker Island and were once more in Lake St. Louis, where soon the brown waters of the Ottawa were seen no more. It was not long before we were sailing, for the first time in over a month, over courses we had navigated before. The great loop was completed, and from here on to Brooklyn the courses would be familiar.

The current that fought us in July now helped us, though it urged us to leave the channel and go with it into the Lachine Rapids. The buoys bobbed and walked as we followed them closely, our bow pointing a little off the course to offset the pull of the water. Soon we passed the red iron gas buoy that shows the rapids' boats the channel over the bar; but we loved it not, for the St. Lawrence and some of the Ottawa, boiling and swirling, poured down the long slope that leads to the rapids; and the slant of that hard-looking water held more than the interest of mere curiosity for us. As the pull of the current grew constantly stronger our engine had another attack of colic and we feared it might die any moment. After a short struggle we slid into the harbor of Lachine and in a few minutes more were moored to the familiar concrete piers.

When we stepped ashore the Chef and I hurried to catch the steamer that shot the rapids, having been told that the experience is very thrilling. Perhaps it is, but we did not find it so. It was like steering down a groove. But maybe I am not an unbiased judge of the Lachine Rapids. I had poked the bow of a thirty-footer into the ends of



THE LOCKS AND CHATEAU LAURIER FROM THE OTTAWA RIVER LOOKING UP

THE EIGHT LOCKS EMPTY, LOOKING DOWN THE OTTAWA

rapids from Pointe aux Trembles to Ogdensburg and fought currents which, in comparison to the sizes of the two boats, were more dangerous to the Hopalong than these were to the steamer Rapids Queen. The responsibility had been mine, while here I was only a passenger; and our engine had none of the sureness and power given by steam boilers. The Chef, who had not been with us on the up-bound run, was not enthusiastic, which bears out my own opinions. But do not mistake me: the Lachine Rapids are well worth shooting, and should not be missed when the opportunity presents itself.

Only certain pilots are licensed to take boats through the Lachine; and they are not Indians. Even the Indian who was wont to board the boats at Lachine, rigged out in full regalia, was only a figurehead and stood at the wheel beside the two pilots for advertising purposes only. At Caughnawaga, we were told, there is an old Indian who, once a year, shoots the rapids in a canoe; and for thirty-five dollars he will take a passenger, but never will he ever get any money of mine! And as for shooting rapids in a motorboat, the tenders of a lock on the Cornwall Canal tell this tale: The crew of a big motorboat, bound down, had become tired of locking, and when they neared the upper end of the Cornwall Canal they steered wide to look at the rapids. Finding them less terrible than they expected, they kept on and were having a fine, exciting time, when they rounded the first bend and got a good look at the real rapids. They did not stop to argue, but put on full speed and headed for the nearest bank, where they shot her up as high as she would go. Then they hired a wrecking company to make extensive repairs and jack the boat up the bank and into the canal.

When we returned to the boat that night we found the Engineer ill and he showed little interest in our tale, which peeved us. He had dined both unwisely and too well. That he might forget his misery, the Chef told him about the Indian and suggested that we might be able to fix things so the Engineer could be the intrepid passenger.

He fairly left his berth. "What!" he shouted. "Go through *that* in a canoe! With an aged Indian playing pilot and engine! Pay *money* for the *privilege! I* wouldn't go down those rapids for twenty-five *thousand* dollars in a tugboat or a battleship. Canoe? Huh!"

"But think of the excitement," urged the Chef.

"Look here, Tim," said the Engineer, "I've had all the excitement I need. Every few minutes, going up this cussed river, I had it thrown at me and was so busy dodgin' that I missed a lot of pretty scenery."

The next day was spent in exploring Montreal, which badly needs a street cleaning department; and a trip up Mount Royal repaid us for the time we spent there. Montreal lay below us like a miniature city, and tiny boats crawled along the St. Lawrence like ants along a path.

When we turned out the following morning we found a miserable rain falling, which did not suit us at all because we wanted to anchor well above St. Ours, twelve miles beyond Sorel, that night. There was no enjoyment sailing in the rain, and as we were several days ahead of our schedule we waited until eleven o'clock, when the rain ceased. Because we got a late start everything in the canal went wrong, and it was after two o'clock when we left the last lock.

Crossing the basin, the Engineer opened the throttle and laughed: "Here's where we travel! I've been thinking about this for a month. The St. Mary Current will now pay up for its past misdeeds."

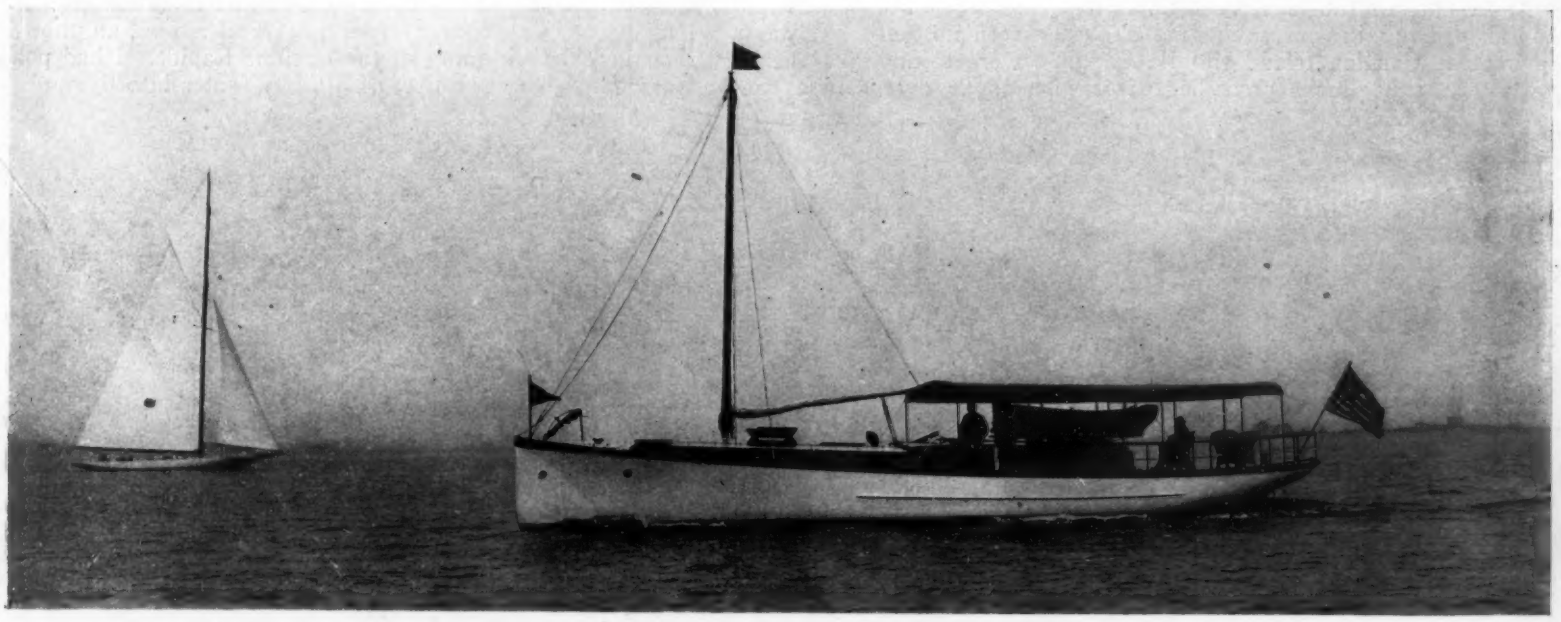
As we shot out past the point and entered the rushing water we made about sixteen miles an hour, judging from the way the bank went past; but at Laurier Pier we began to slow down. Then came Longue Pointe, Pointe aux Trembles and the narrow channel past Ile St. Therese, followed by Varennes, where the twin spires flashed their farewells.

The river is beautiful beyond description, and now that we were going with it and knew the channels we enjoyed every minute of that wonderful sail. Passing Ile Bouchard we shot out toward the middle of the river to follow Contrecour Course and soon circled around Bellmouth Curve and saw Lanoraie far across the water. As we entered the last straight reach the Chef began to worry about a camp site and we had to threaten him with leg irons. Around the next bend we saw Sorel, and as we swung in and entered the Richelieu River we looked regretfully back at the great St. Lawrence, much wiser for our acquaintance with it.

Just above the bridge, on the starboard hand, lay an old scow half submerged, and we drifted gently against it and made fast, feeling that we were nearly home; for from now on we would sail steadily southward for Brooklyn, only 400 miles away. We promised ourselves that the St. Lawrence would see us again, and it will: our next cruise will take us down it and up the Saguenay.

Novel Electric Running Lights

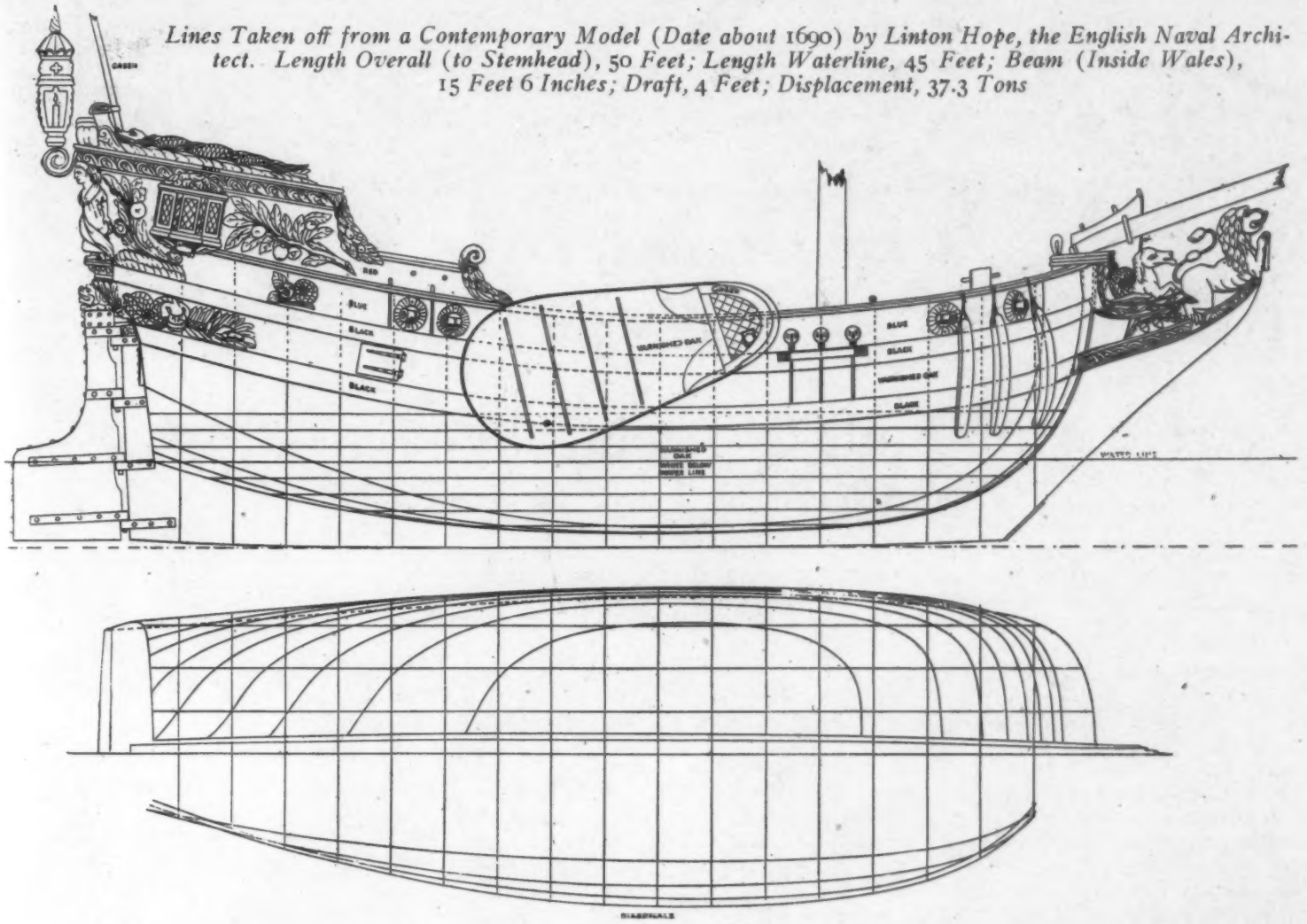
A novelty that has been placed on the market for motor boats is a combination side light for use on Number 1 class of motor boats. This outfit is entirely self-contained in that the light box containing the red and green lenses and the electric bulb also contains two dry cells, which give thirty hours steady and fifty hours intermittent current. There are thus no connections, wiring or deck plates to bother with, with the danger of short-circuiting when the water is flying.



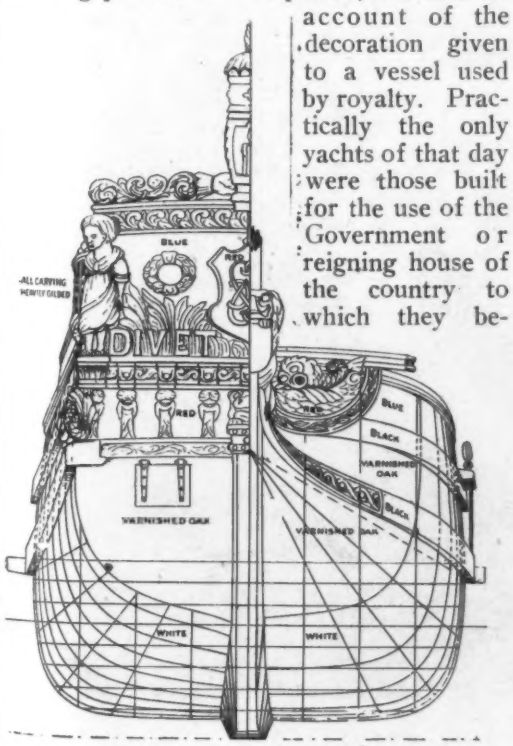
THE MAVIET, AN UNUSUALLY ABLE AND COMFORTABLE 61-FOOT CRUISER OWNED BY H. W. HANAN, AND THE AMERICA'S CUP CANDIDATE RESOLUTE

The Dutch Royal Yacht of William of Orange

Lines Taken off from a Contemporary Model (Date about 1690) by Linton Hope, the English Naval Architect. Length Overall (to Stemhead), 50 Feet; Length Waterline, 45 Feet; Beam (Inside Wales), 15 Feet 6 Inches; Draft, 4 Feet; Displacement, 37.3 Tons



The accompanying plans of a yacht of the late seventeenth century are extremely interesting, not only as an example of ship building practice of the period, but also on account of the decoration given to a vessel used by royalty. Practically the only yachts of that day were those built for the use of the Government or reigning house of the country to which they belonged. Mr. Hope, in describing this vessel in *The Yachtsman,* says:



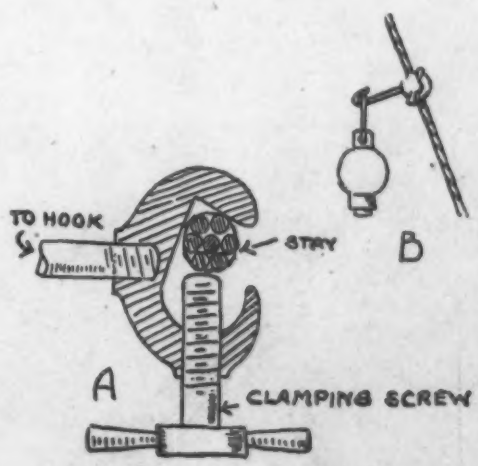
"The lower part of the hull is almost exactly in accordance with a modern Dutch Boier, or Tjalk, but the high poop and long false stem, together with her rig, differ entirely from those vessels now in use.

"The rig is especially noticeable, as it is a cutter with a loose-footed mainsail with long gaff and short foot, much the same in cut to the sprit sail of a Thames barge, and quite unlike a modern Dutch sail, but, like the barge sail, fitted with brails and vangs. In addition to the ordinary pair of vangs there is a second pair and also a second peak halyard and forestay, the idea being that if one part were shot away there was a preventer left to do the work. Another point in this vessel's rig which seems peculiar to modern ideas is the square topsail set flying.

"The general color effect of this model is most gorgeous, owing to the heavy carving and gilding. She is painted white below water, with varnished oak topsides, black wales, and a bright pale cobalt blue bulwark. The top-gallant bulwarks on the poop and one or two other parts are vermilion, while the upper ends of the leeboards, masthead, flagstaff and hatches are green."

Clamp for Riding Lights

A clamp for a riding light, in place of the time-honored lanyard, is shown herewith, and should prove a great convenience. It is made of iron, as shown, with a clamping screw and a hook for a riding light. It can be clamped on the forestay or shrouds at any height desired and will not slip. It can be made by any machine shop.



CLAMP FOR ANCHOR LIGHT

FIG. 4

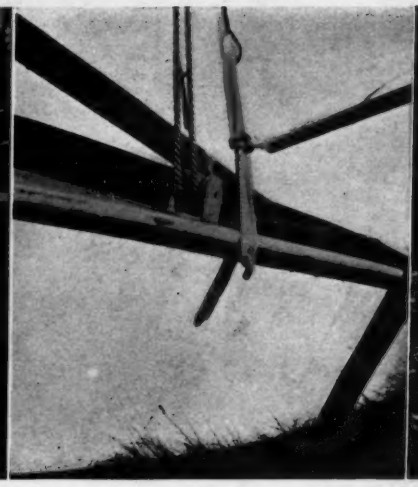


FIG. 5

FIG. 6

How to Build a Racing Skiff for $25.00

By PHILLIPS HAMILTON RYDER

THE sailing skiff Joujou, described in this article, was designed to fill the need for a fast, able boat which could be easily built at low cost by any amateur possessing ordinary mechanical intelligence. The Joujou, which name, by the way, means plaything in French, has proved herself able to fill this need. She is fast, steers beautifully, carries her 75 square feet of sail like a frigate, and is more able and "dry" than any boat of her size the writer has seen. The boat is small enough to be easily hauled up on the beach when not in use, and the cost of building should never be more than $25 (she has been built for this), while in some localities as little as $18 would cover the necessary expenditure. The construction is so simple and yet so effective that a strong, tight boat can be easily built by any person who has never had previous boat building experience.

The lumber needed is listed below. If satisfactory cedar can be obtained, it may be used in place of pine where specified.

LUMBER ORDER

Sides, pine, two pieces.....14′ x 16″ x ½″
Bottom, pine, two pieces.....14′ x 9½″ x ½″
Bottom, pine, two pieces.....12′ x 10″ x ½″
Deck, pine, two pieces.....12′ x 12″ x ⅜″
Moulds and centerboard case, pine, two pieces, 12′ x 12″ x ⅝″
Centerboard, pine .....6′ x 9″ x ¾″
Rudder and Skeg, pine.....3′ x 13″ x ⅞″
Stem, pine .....12″ x 3½″ x 2″
Cockpit Curb, cypress, two pieces.....7′ x 4″ x ⅜″
Sternboard, cypress .....3′ x 8″ x ½″
Stringers, spruce, eight pieces.....14′ x 1½″ x ½″
Keel, spruce .....14′ x 4″ x ½″
Floors, Deck Beams, etc., spruce, two pieces, 14′ x 1½″ x ¾″
Mast, spruce .....12′ x 3″ x 3″
Boom, spruce .....11′ x 1¾″ x 1¾″
Gaff, spruce .....7′ x 1½″ x ⅞″
½ oval moulding, hard pine, two pieces...14′ x 1″ x ¼″
Oak for cleats, head ledges, false stem, knee, etc.

HARDWARE ORDER

All metal either galvanized iron or brass.
6 Gross screws, ¾″—No. 8.
2 Gross screws, 2″—No. 10.
1 Doz. screws, 2½″—No. 11.
2 Doz. screws, 1″—No. 8.
1 Doz. screws, 1¾″—No. 10.
½ Doz. screws, 3″—No. 11.
36 ft. No. 21 siezing wire.
100 ft. hemp "clothesline."
30 ft. ⅛″ cotton rope.
1 Ball yacht marline.
3 Mast hoops, 3½″ diam.
2 Crotch hooks, No. 0.
1 Eye plate, ½″ diam.
3 Cleats 5″ long.
1 Anchor chock.
1 Double deck halyard block.
3 Single blocks, No. 5.
3 Thimbles, ⅛″, 4 eyes.
1 Strap hinge 1″ wide at joint.
2 Brass bolts 3″ x 3/16″.

The place in which you build should have a cleared space at least 16′ x 8′ with a flat, wooden floor and a door or window large enough to get your boat through when completed.

First look over the setting-up plan and study it carefully. The frame is the foundation on which your boat is built, and you must be very careful to work out everything accurately to size and put all parts together, as shown in the plans, if you want the boat as it should be.

The moulds, which give the boat its shape, are built into the finished hull. They should be cut from the ⅝″ pine, to the shape and sizes shown in the plan. If you cannot get a board wide enough for Mould No. 2, join two boards "flush," backing the joint with a batten. When the five moulds have been finished to size, we are ready to plane the bevels for the bottom boards on the bottom of the moulds, and the bevels for the side boards on the ends of the moulds. To get the bevel for the side boards on the ends of Mould No. 4, for instance, place the handle of an adjustable T bevel along the edge of the mould in the Half Breadth Plan. Adjust the blade of the T bevel until it lies along the edge of the chine piece. Then testing with the adjustable bevel after the manner of a trysquare, plane the required bevel on the ends of the mould. The bevels for the bottom of the moulds can be obtained in the same manner.

We are now ready to notch the moulds for the keel and stringers. The positions and sizes of the notches are clearly shown on Mould No. 4 in the Setting-up Plan. It will be simpler for the novice if he cuts sample pieces from the ends of the keel and stringers and make the notches to fit these samples. In cutting these notches be sure to allow for the bevel for the side boards on the ends of the moulds, and the bevel for

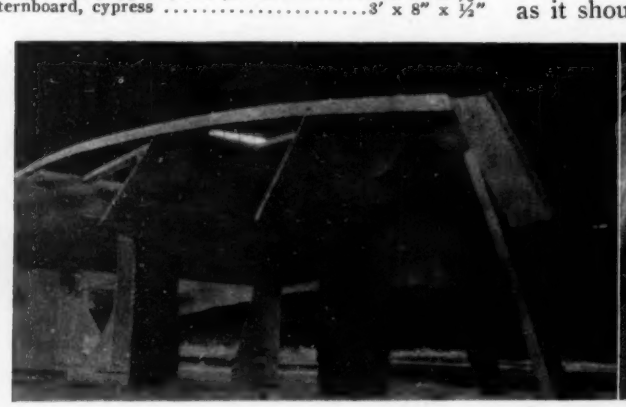


FIG. 1

FIG. 2

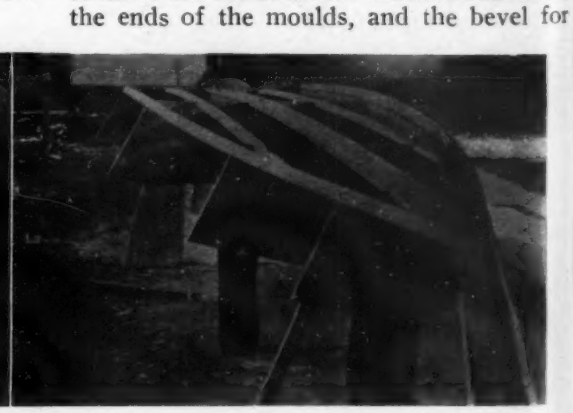
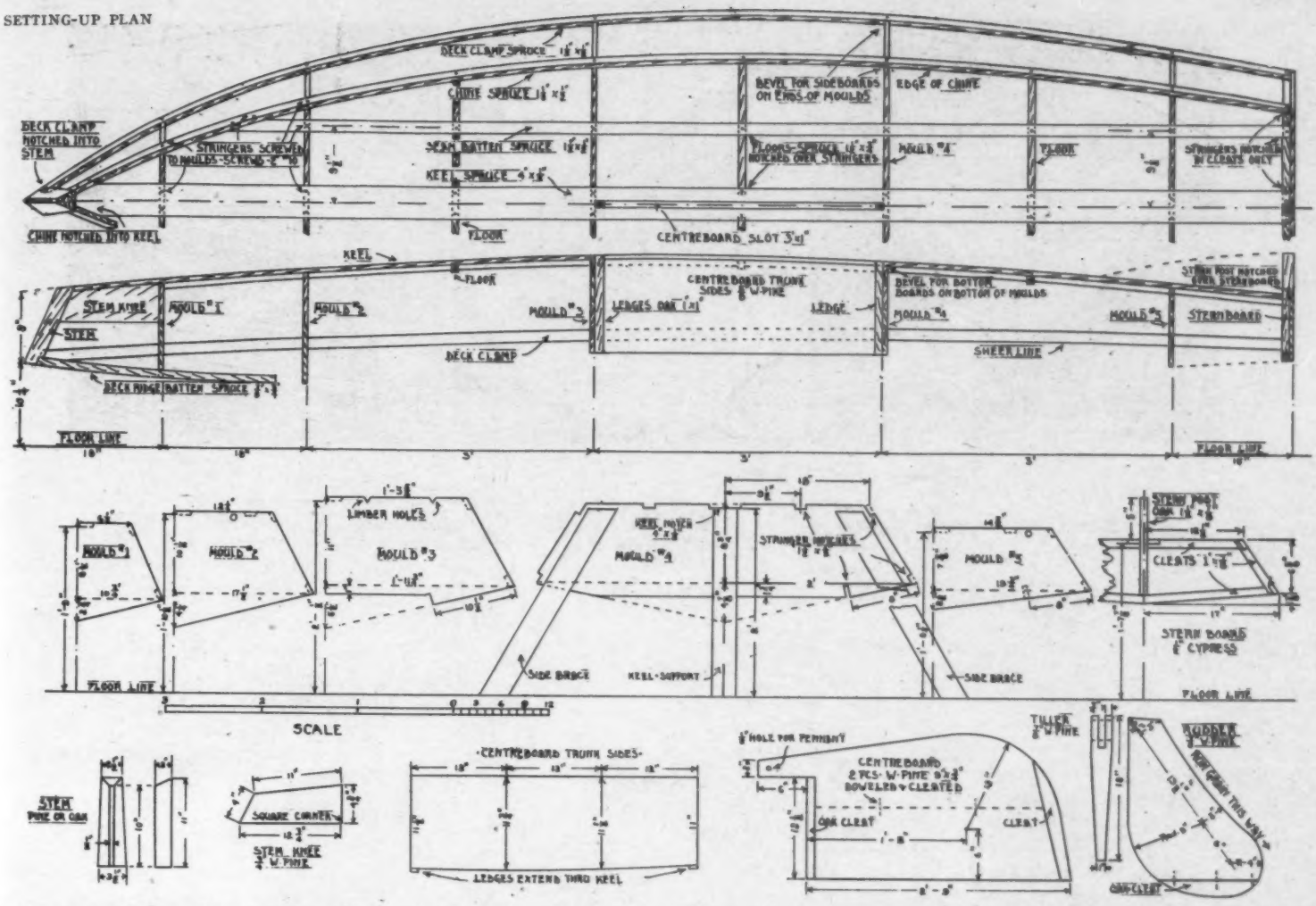


FIG. 3

SETTING-UP PLAN

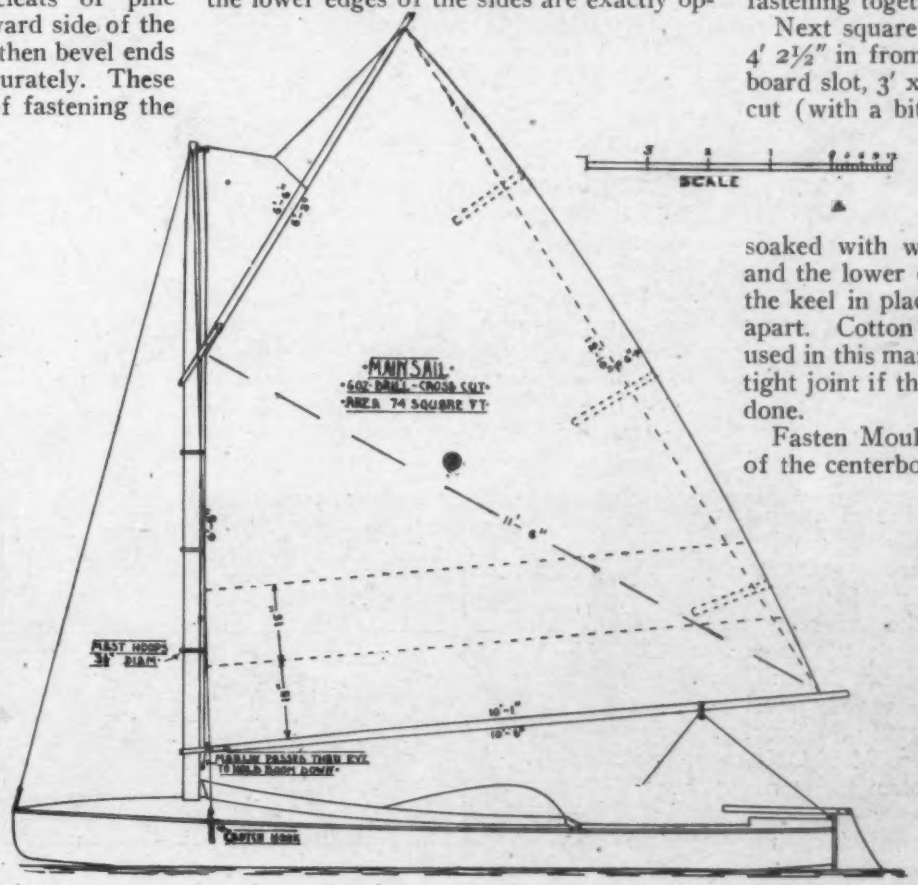


the bottom boards on the bottom of the moulds.

Get the sternboard out, as shown in plan, of ½" cypress. Screw cleats of pine 1" x ⅞" securely to the forward side of the sternboard, along the edges, then bevel ends and bottom of sternboard accurately. These cleats give a better means of fastening the side and bottom boards in place and also stiffen the sternboard. Now notch these cleats for the keel and stringers, as in the moulds. Next fit the sternpost of oak, 1½" x ⅞"; be sure it is perpendicular to the lower edge of the sternboard before fastening in place.

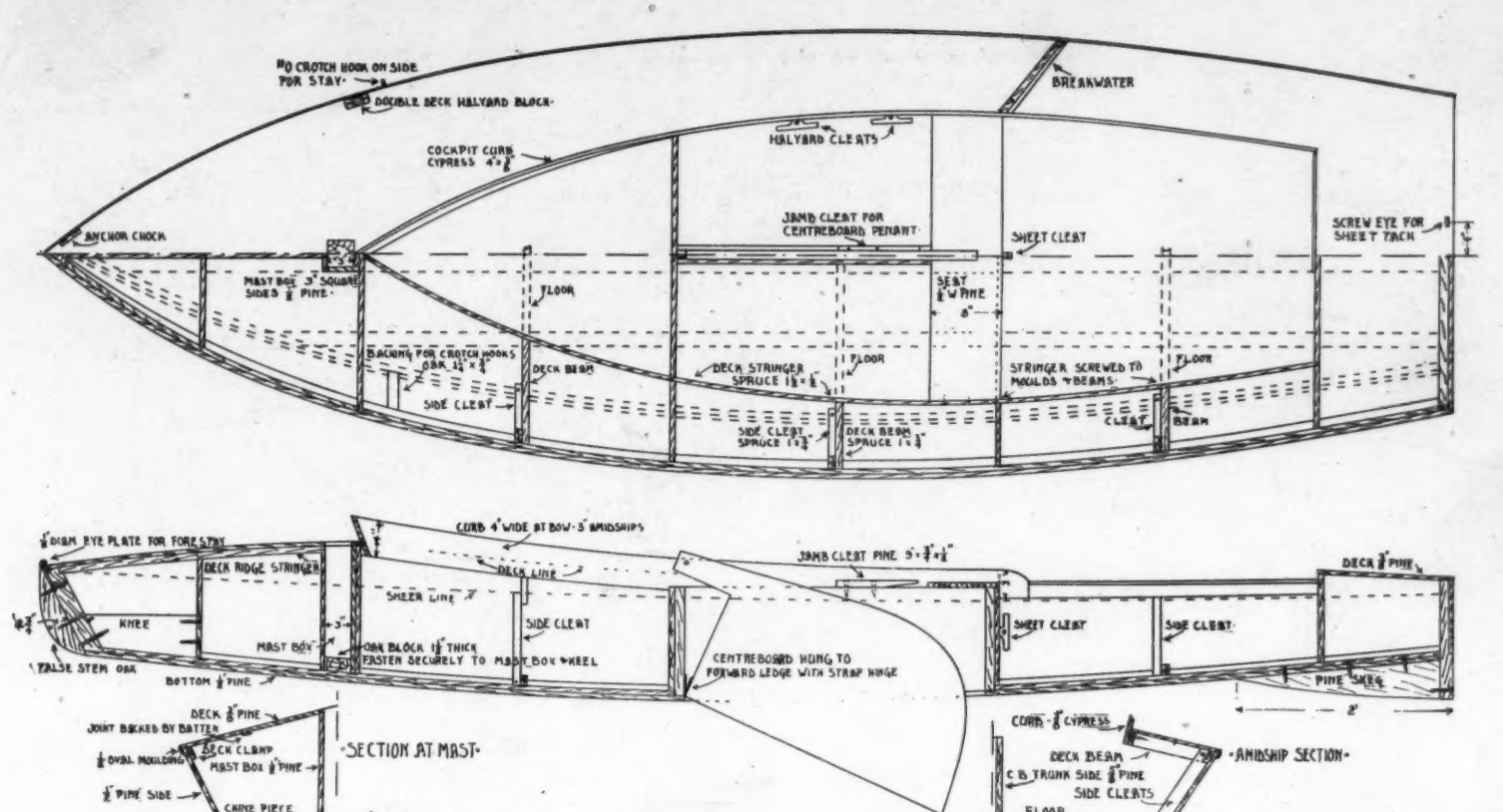
Get the stem knee out, as shown in the plans, and screw it securely in place on Mould No. 1. The stem is made of 2" pine or oak cut to sizes shown on the plan. Pine is so much easier to work than oak that it would be better for the novice to use it for the stem. When finished, fasten the stem securely to the stem knee.

The centerboard case or trunk is made up of two pine sides 3' long ⅝" thick, the upper edge straight and the lower edge curved, as shown, and two ledges made of oak, 1" square. In fastening the centerboard trunk together, be sure the lower edges of the sides are exactly opposite and parallel to each other. The ledges project ½" below the sides, as shown in the plans. Paint the inside of the case before fastening together.



Next square up one end of the keel, and 4' 2½" in from this end lay out the centerboard slot, 3' x 1". When the slot has been cut (with a bit and compass saw), we are ready to slip the keel over the ledges in place on the centerboard trunk. Place a piece of cotton flannel soaked with white paint between the keel and the lower edges of the case and fasten the keel in place with 2" No. 10 screws 6" apart. Cotton flannel soaked in paint and used in this manner will insure an absolutely tight joint if the wood working is fairly well done.

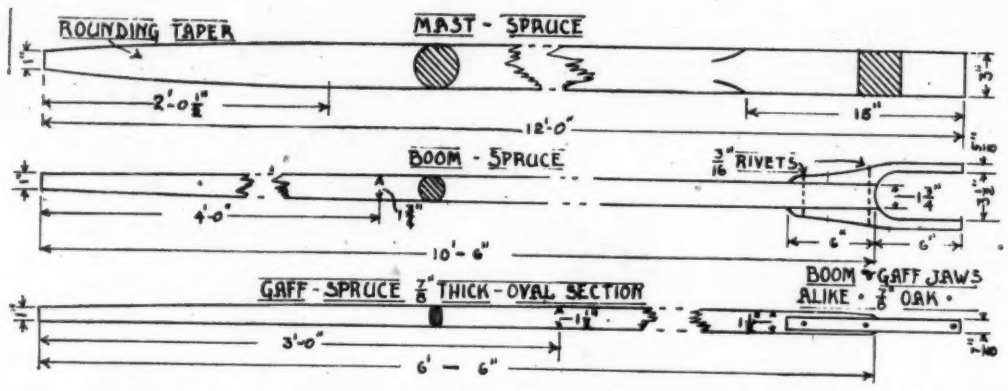
Fasten Mould No. 3 to the forward end of the centerboard trunk. Be sure that the side of trunk is square with the bottom of the mould. Next nail Mould No. 4 to the after side of the trunk. Before finally fastening this mould in place stand at the end of the keel and, squinting across the bottom edges of the Moulds No. 3 and No. 4, be sure these edges are exactly in line; otherwise the bottom of your boat will be twisted or have a "wind" in it. Space the other moulds at the dis-



CONSTRUCTION PLAN

tances specified in the Setting-up-Plan.

Fasten the keel securely to each mould with two screws, 2" No. 10, first being sure the moulds are exactly at right angles to the keel. We are now ready to "set up" the



frame, bottom up, on the floor of the shop. The keel is to be supported from the floor at each mould by a keel support (see plan, Mould No. 4). Cut these supports at the length noted on the Setting-up Plan, and fasten them securely but temporarily to the moulds with the upper end butted against the keel. Stretch a line across the portion of the floor on which the boat is going to be "set up." If the floor is not flat, block up the low places so that the lower ends of the keel supports will be on the same level. Be sure that the moulds are "plumb" and the "bottom" edges are exactly level before nailing the keel supports to the floor. Then nail the side braces (see Mould No. 4) to the floor and brace the stem and sternboard.

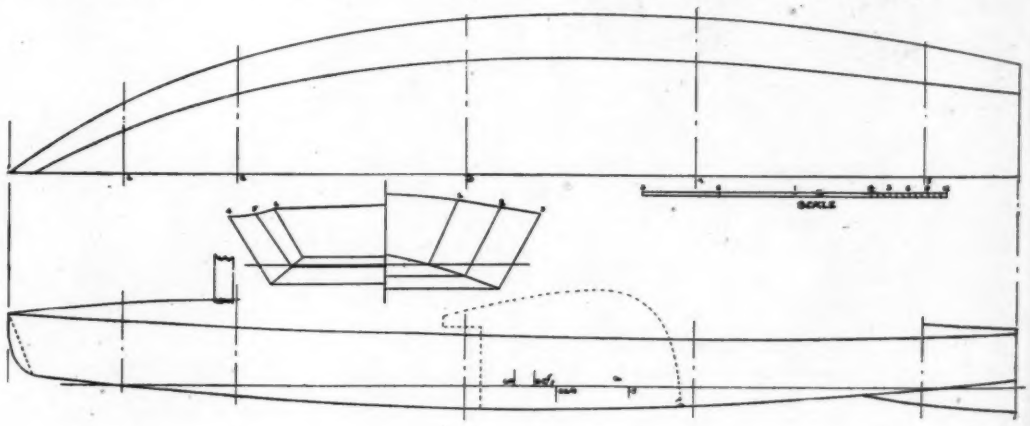
Now fit the chine pieces and deck clamps in place, working from the bow to the stern. Then fit the seam battens to the frame, as shown. The drawings show clearly how they go. The boat should now look like the boat in Fig. 1 and Fig. 2 and Fig. 3.

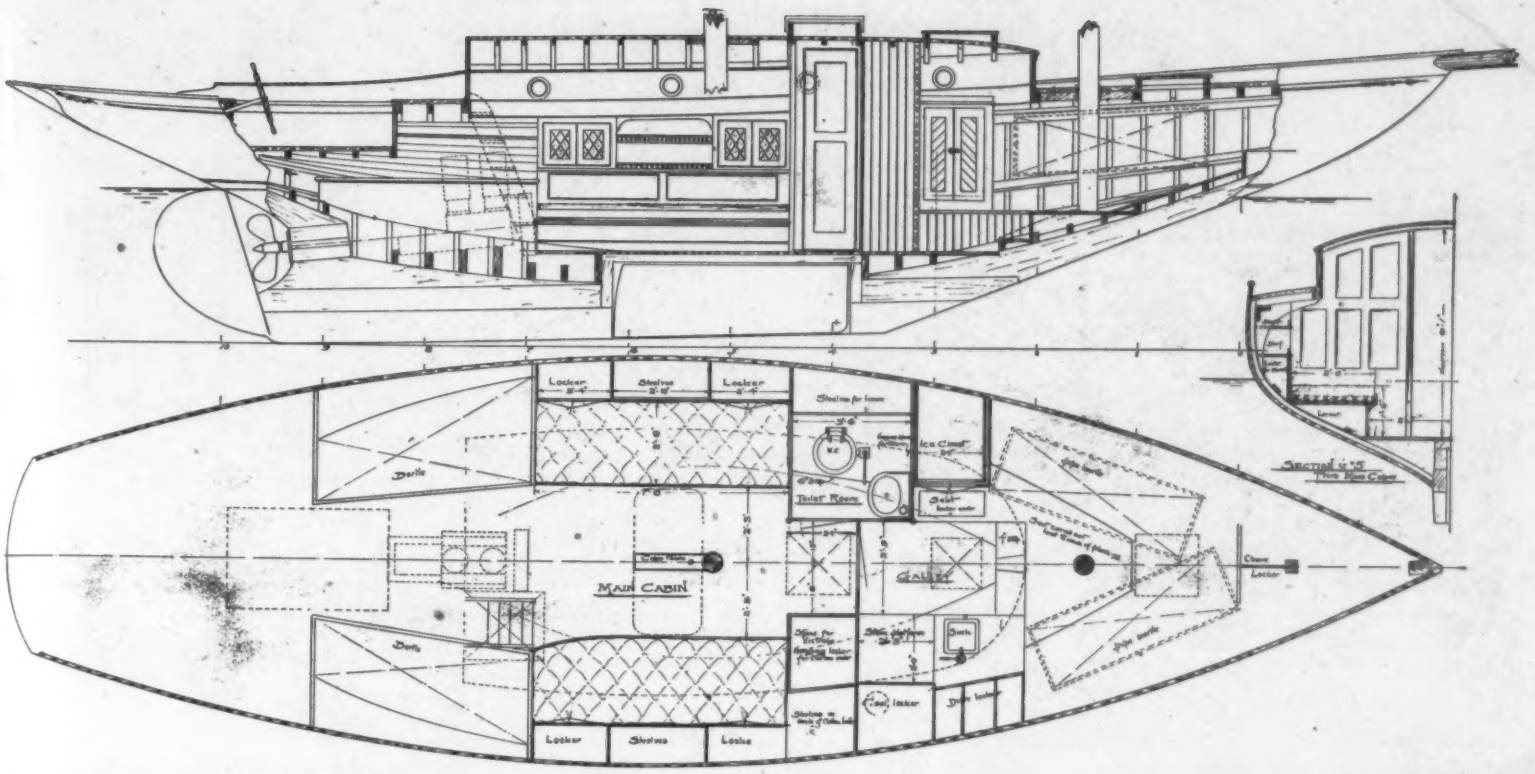
We are now ready to put on the side boards. Bend each one in place temporarily and mark it so that you can tell just where to finally fasten it. Then lay a strip of flannel soaked in paint on the sides of the stem and ends of the sternboard. Now fasten both side boards to the stem with six 1" No. 8 screws. Bend the boards in and fasten to each mould with 2" No. 10 screws, working towards the stern and working both boards at the same time. Fasten the side boards to the chine pieces and deck clamps with ¾" No. 8 screws 6" apart.

You are now ready to get the bevel for the bottom on the lower edges of the side boards. Take a straight edge 3' long and lay it athwartships across the keel and seam battens. Plane down the side boards and chines until they are flush with the lower edge of the straight edge, taking great pains to get the bevel just right and the curve of the bottom from stem to stern just fair and true.

Fit floors of spruce 1½" x ¾" athwartship, placed as shown on the plans. These floors must be notched over keel and stringers and fastened securely to them with

(*Continued on page 219*)





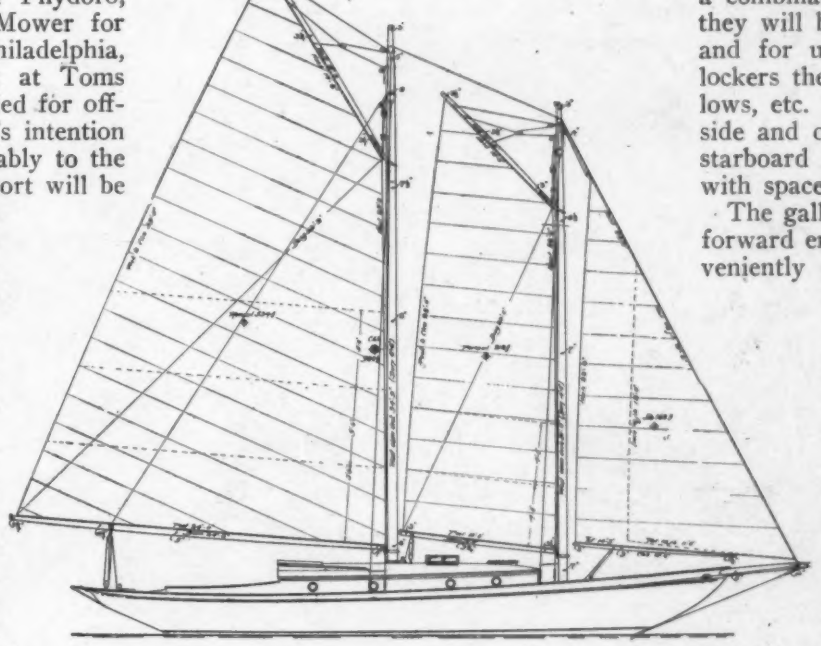
Phydoro, a 30-Foot Water Line Cruising Schooner

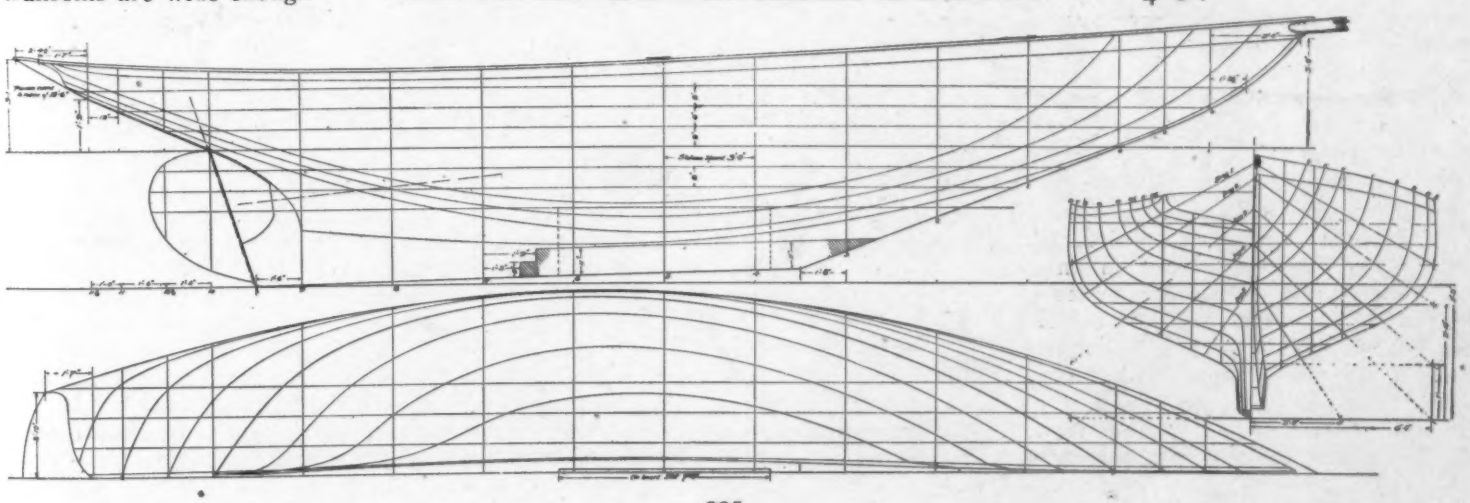
THE accompanying plans show the small auxiliary schooner Phydoro, designed by Bowes & Mower for H. Lawrence Hess, Esq., of Philadelphia, and now being built by Kirk at Toms River, N. J. The boat is intended for offshore work and it is the owner's intention to cruise to Bermuda and probably to the West Indies, but as her home port will be Atlantic City, her draft was limited to 4 feet 6 inches. In order to get fair windward qualities a centerboard is placed in the keel but does not come above the cabin floor. The rig is fairly small and her spars and gear are designed for hard service and ease of handling.

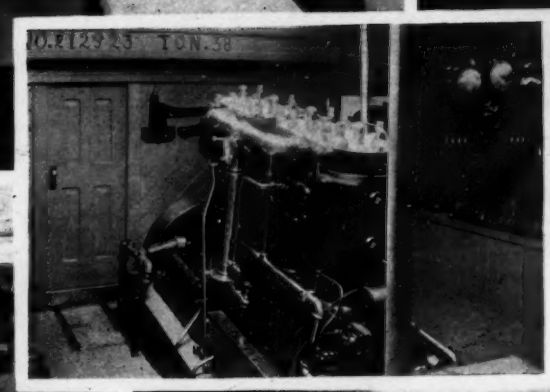
The cabin plan shows the conventional arrangement of transoms and lockers amidships with two berths at the after end extending back under the deck on each side of the cockpit. The cabin transoms are wide enough for use as berths and are upholstered with a combination spring and cushion, so that they will be comfortable both for sleeping and for use as seats. Below the alcove lockers there is a locker for blankets, pillows, etc. The toilet room is on the port side and opens from main cabin. On the starboard side is a large hanging locker with space provided on top for a Victrola.

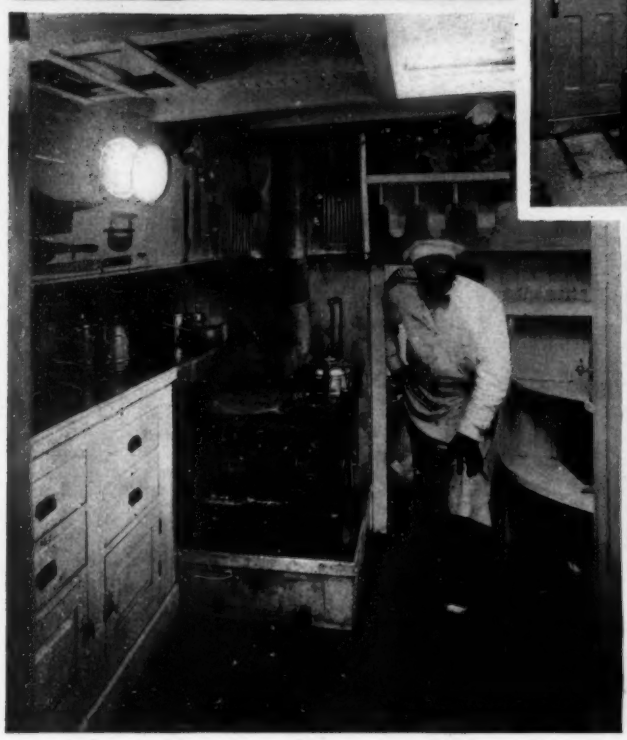
The galley has full head room under the forward end of the cabin trunk and is conveniently arranged with stove, sink, dish lockers, etc.

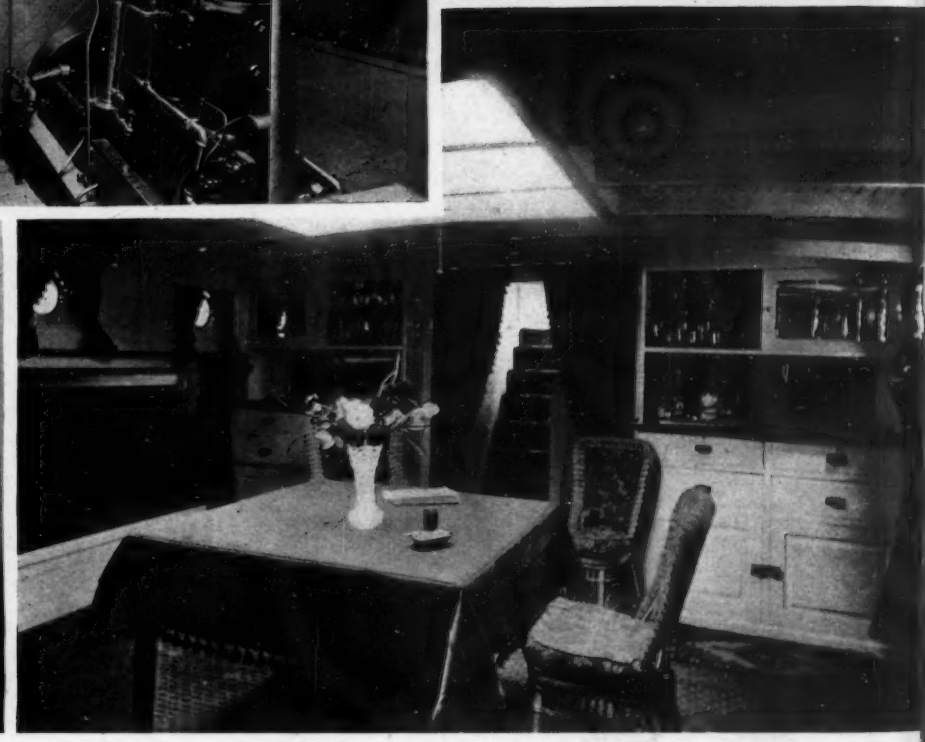
The auxiliary power will be a two-cylinder four-cycle motor, 6¼-inch bore by 8-inch stroke, developing about 18 horsepower at 450 revolutions per minute. A Thompson feathering propeller will be used. Gasolene tanks are located on either side of the cockpit. Her dimensions are: Length overall, 42′ 6″; L. W. L., 30′; breadth, extreme, 12′; draft, 4′ 6″.











THE SPACIOUS AFTER DECK, LOOKING FORWARD

THE HEART OF THE SHIP—THE DOCTOR AND HIS "SHIPMATE"

THE 4-CYLINDER, 4-CYCLE POWER PLANT

ONE OF THE STATE ROOMS

THE MAIN SALOON, SHOWING HOW ROOMY A BOAT MAY BE MADE IF NOT SUB-DIVIDED TOO MUCH

The 85-Foot Auxiliary Bugeye Sonsy

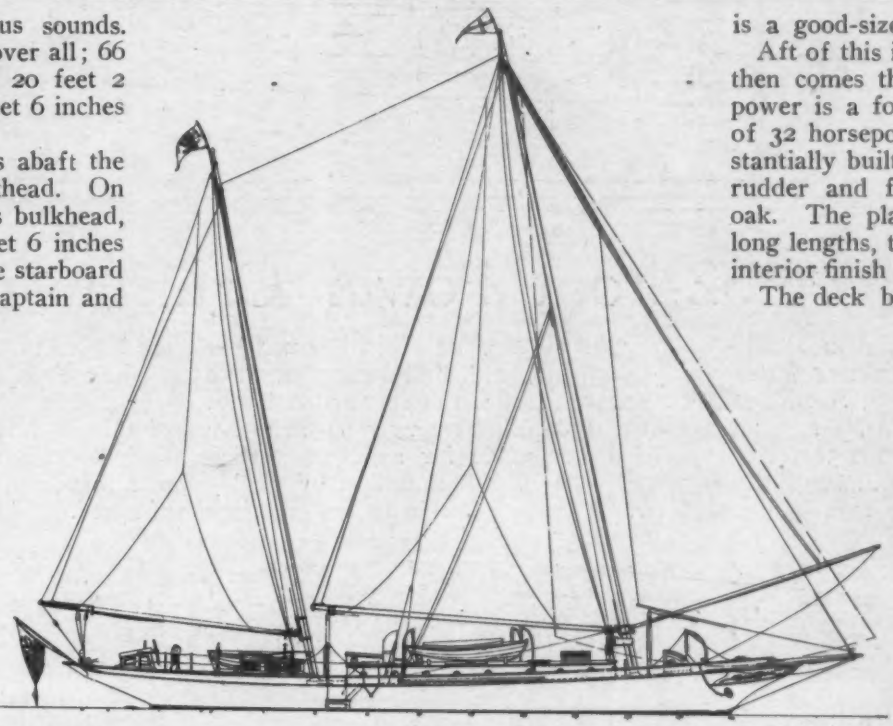
ONE of the novelties of the year in new yachts is the auxiliary bugeye Sonsy, recently completed for Mr. Frank M. Carnegie, and now on an extended Southern cruise. She was built from designs by Gielow & Orr, of New York City.

The bugeye is indigenous to Chesapeake Bay and its tributary waters. It has a long, rather straight-sided hull with flat floor and is of light draft. The rig, too, is odd, resembling somewhat that of a ketch. The bugeye has a short bowsprit, a fairly high foremast and a shorter mizzenmast. Prominent features of this rig are the great amount of rake given to the masts and the fact that all the sails are jib-headed or triangular in shape, neither the mainsail nor the mizzen being fitted with a gaff. This rig has many advantages for cruising that are worth considering. The sharp rake of the masts lifts the booms and keeps them out of the water when running before the wind or when reaching with the wind abaft the beam. The jib-headed sails have the advantage of requiring only single halyards; and as all the sails work on a traveller, the craft, when under way, is for all intents and purposes as handy as a catboat. The rig recommends itself on account of its simplicity and the small crew required for handling it under all conditions. This has been recognized by the fishermen and baymen in the vicinity of

hesapeake and its numerous sounds. The Sonsy is 85 feet long over all; 66 et on the load water line, 20 feet 2 ches extreme beam and 3 feet 6 inches aft when fully equipped.

At a point 12 feet 9 inches abaft the remast is a transverse bulkhead. On e port side, forward of this bulkhead, the galley, extending 10 feet 6 inches re and aft. Opposite, on the starboard le, are staterooms for the captain and ok. The forecastle is forard of the galley and has 5 et 9 inches headroom.

Abaft the galley bulkhead the main saloon, 13 feet 9 ches long, and fitted with ansoms on each side arnged to draw out and give eeping accommodations for ur persons. Abaft the loon is a steerage 7 feet ng and 4 feet 6 inches de, from which a comnionway leads to the deck. n each side of this steerage



is a good-sized, well-appointed stateroom.

Aft of this is another solid bulkhead, and then comes the engine room. The motive power is a four-cylinder four-cycle engine of 32 horsepower. The yacht is very substantially built. The keel, stem, stern post, rudder and frames are of selected white oak. The planking is of Georgia pine in long lengths, the deck is white pine and the interior finish is in white enamel.

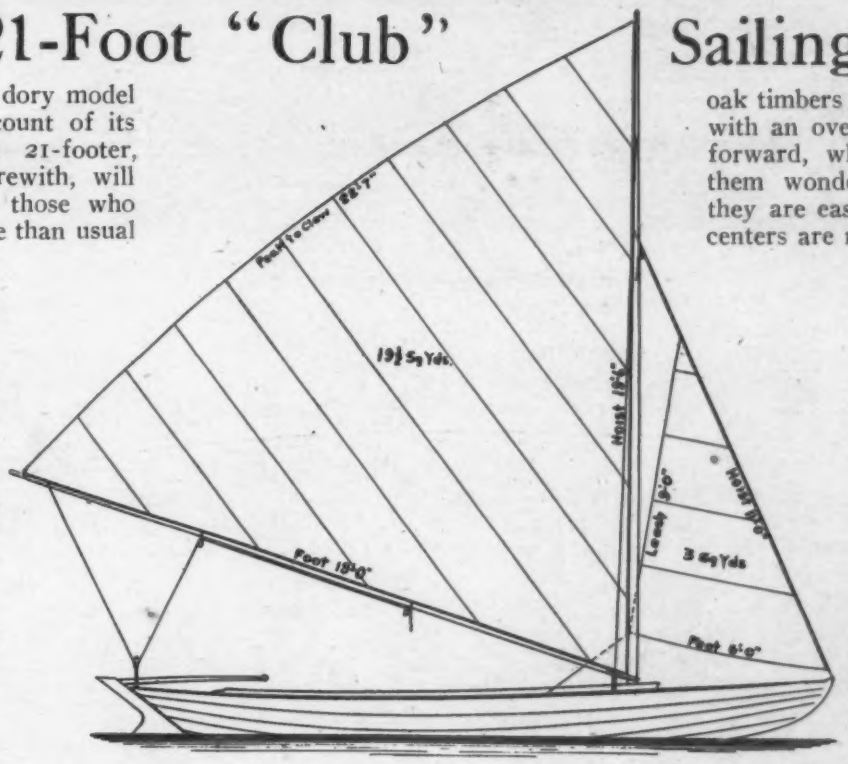
The deck being flush and the main house well forward, gives a great deal of deck room for a yacht of this size. All engine controls lead to the wheel, so that there is full deck control.

The Sonsby has already made an extended Southern trip, going to Florida in midwinter, where she was joined at Fernandina by her owner and his guests.

While the rig is small as compared with the usual gaff-headed sails, the bugeye has a good turn of speed.

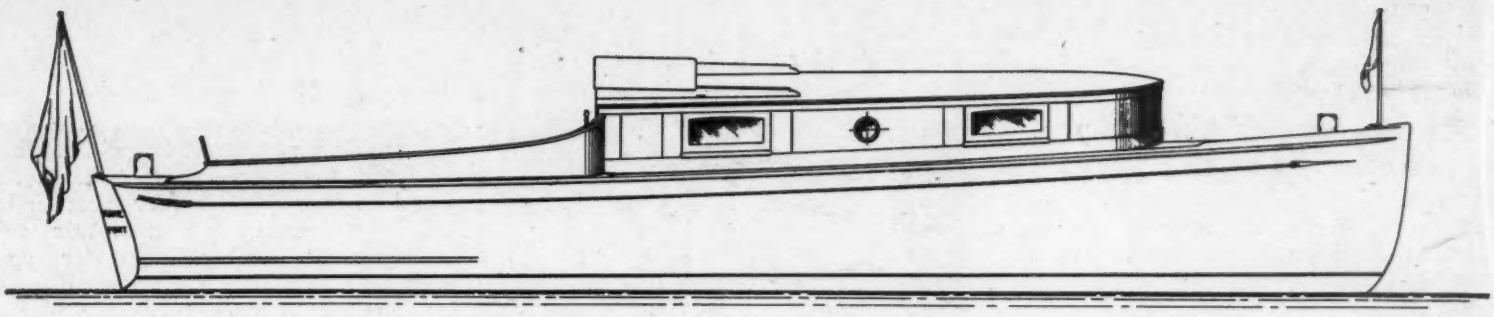
A 21-Foot "Club" Sailing Dory

We have long advocated the dory model small sailing boats on account of its atherly qualities, and the 21-footer, ose plans are published herewith, will particularly interesting for those who nt a boat of this type of more than usual ed and ability. This is a foot "club" dory built by the ppan Boat Manufacturing mpany, of Boston, Mass., m designs by C. D. Mower. e is 21 feet long overall, 15 t 6 inches on the waterline. h a beam of 6 feet and sail a of about 200 square feet. n producing these boats as stock model the Toppan mpany have added a few ht improvements and refinents from year to year until y have turned out an ideal t for all-round use, for rnoon sailing or for racing one-design class. They are ngly built with steam-bent



oak timbers and with lapped pine planking, with an overhanging bow and a long deck forward, which in rough weather makes them wonderfully good sea boats, while they are easily handled by one man. The centers are nicely worked out, so that their sailing and handling qualities are excellent, while, on account of their beam, they are safe and make an ideal family craft.

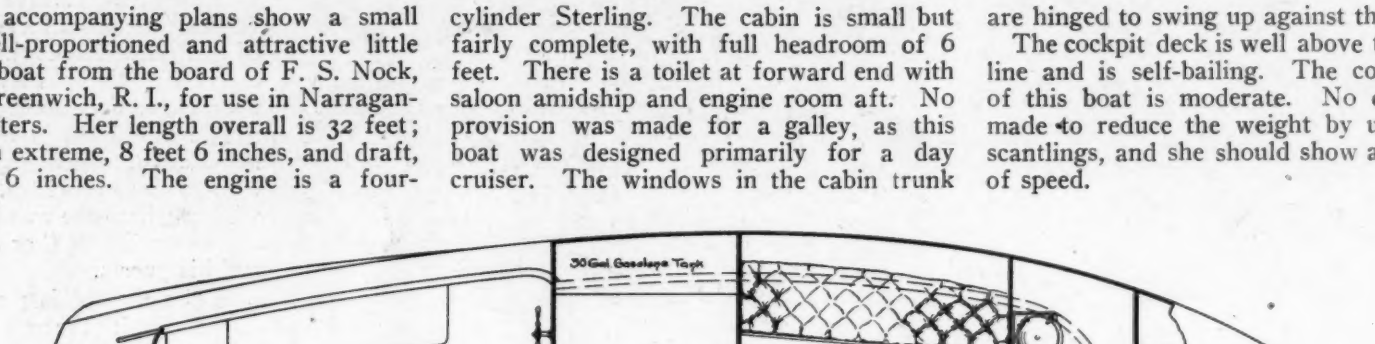
The sails and spars are of the best material, the spars all being made out of selected spruce at the Toppan Company's plant, so as to insure their standing a good strain without breaking. In regard to the rigs, the gaff mainsail with jib can be furnished, but the majority of users prefer the leg o' mutton mainsail with jib. Everything about the boats is built with a view to their standing hard service.



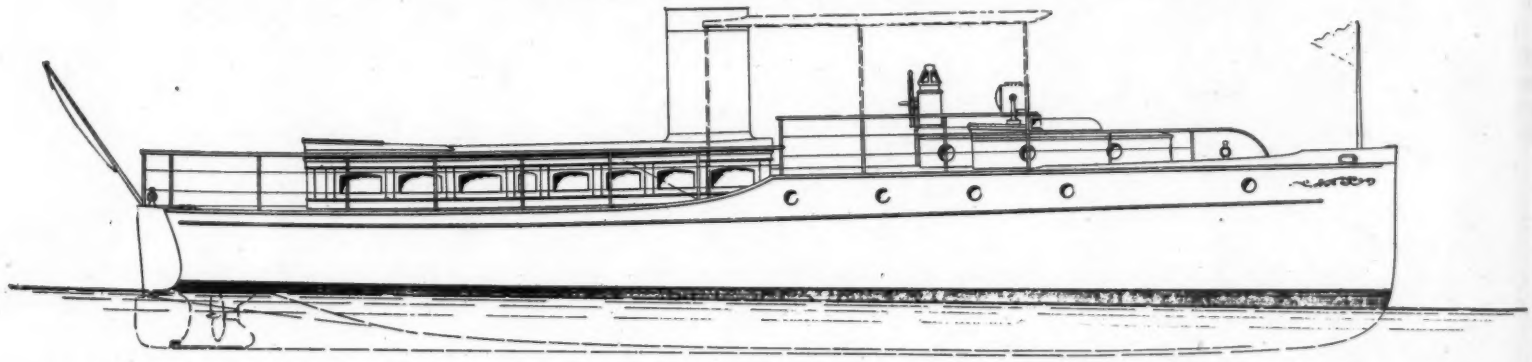
A 32-Foot Power Cruiser

The accompanying plans show a small but well-proportioned and attractive little power boat from the board of F. S. Nock, East Greenwich, R. I., for use in Narragansett waters. Her length overall is 32 feet; breadth extreme, 8 feet 6 inches, and draft, 2 feet 6 inches. The engine is a four-cylinder Sterling. The cabin is small but fairly complete, with full headroom of 6 feet. There is a toilet at forward end with saloon amidship and engine room aft. No provision was made for a galley, as this boat was designed primarily for a day cruiser. The windows in the cabin trunk are hinged to swing up against the carlines.

The cockpit deck is well above the water-line and is self-bailing. The construction of this boat is moderate. No effort was made to reduce the weight by using light scantlings, and she should show a fair turn of speed.

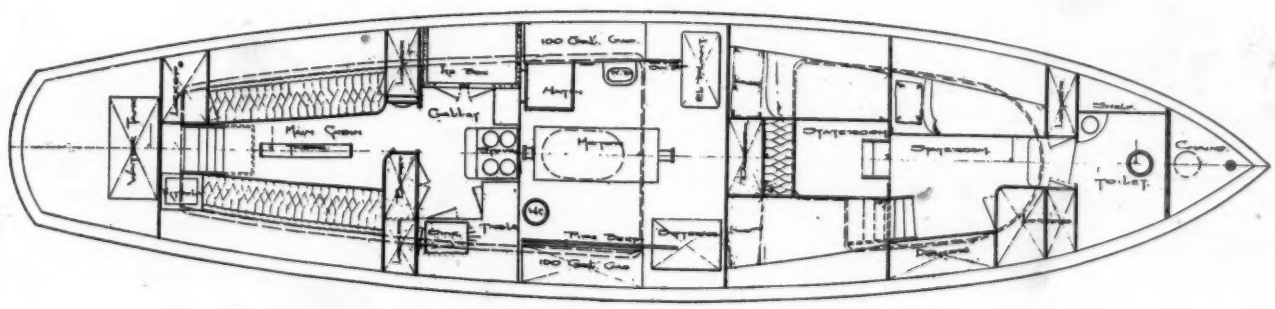


A 51-Foot Shoal-Draft Cruiser



For the man who wants a boat for use in shallow waters the plans of the 51-foot tunnel stern cruiser shown herewith will be interesting, particularly as she has a large amount of accommodation for a craft of this length. She was designed by J. H. Wells and is 51 feet long overall, 11 feet 6 inches in breadth and 2 feet 3 inches draft, with plumb ends. The motor is a 4-cylinder 4-cycle engine, is amidships partly under the after cabin house and partly under the raised bridge deck.

The accommodations consist of two state rooms, one of them double, a large main cabin aft, a good-sized galley, and plenty of locker room. There is a small house or cabin trunk over the forward state rooms insuring ample headroom.



Air Resistance on Rigging

An important element of resistance that must be taken into account, especially in a racing yacht, where every fraction of speed counts, is that of wind resistance on rigging and sails. When a yacht is close hauled, heading into the wind, this resistance is very considerable. Great attention has been paid to this matter by designers in recent years and it is now almost universal to see wire running rigging on racing yachts instead of hemp, to reduce wind friction, as well as to eliminate stretch. The substitution of hollow steel masts on the large boats, instead of hollow wood, has also resulted in a reduction of the surface exposed to windage. The mast of an America's Cup yacht will present some 200 square feet of surface to the wind, so that the resistance due to this factor is very considerable. Skin friction along the sails is also very great, but is somewhat less with the sails with the clothes cut crosswise than up and down, where the seams would offer greater resistance to the wind sliding along the surface. The great wind resistance of sails may be gaged by bringing a boat up into the wind and seeing how much more quickly her headway is checked by the drag of the sails than in the case of a power boat of equal weight when brought up into the wind and her power shut off. The latter will carry her headway much farther.

A Fog Situation

YACHTING:—Will you kindly inform me on the following:

1st. How much "into the wind" can a sail vessel go? That is, how near to the direction from which the wind is blowing when close-hauled? What direction would she head? and what "leeway"?

2d. In a fog situation, wind from North-

THE EDITOR OF THE "YACHTING MONTHLY'S" (LONDON) IDEA OF AN AMATEUR DESIGNING COMPETITION

THE NEW RUSSIAN MOTOR YACHT THE COMING, IMPERIAL RUSSIAN YACHT CLUB, ONE OF THE FIRST RUSSIAN BOATS TO BE POWERED WITH A DIESEL ENGINE

west, and a steamer on a course west by south, hearing one blast of fog horn right ahead?

What direction is the sail vessel going, and what course and direction should steamer take?

3d. Could it properly be said that the steamer should "go under the stern" of the sail vessel in that situation? F. R. M.

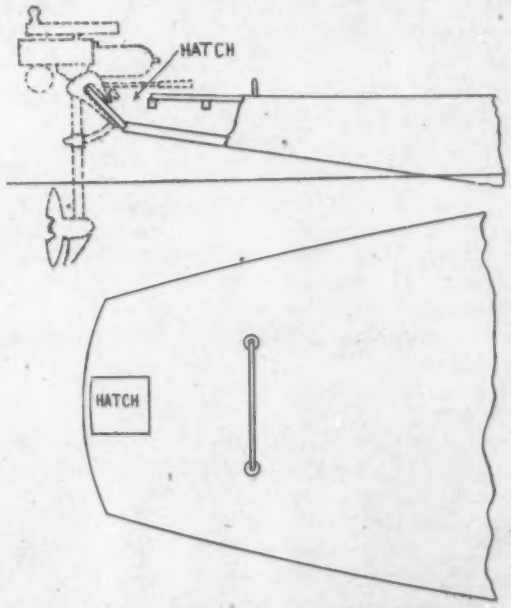
(1) A sailing vessel can sail within four or five points of the wind when close-hauled. Racing sloops are able to do a little better than four points, while schooners or commercial vessels usually figure on about five points; square-riggers are doing well if they make good six points. Leeway varies in different vessels and conditions. In smooth water from one-half to one point would be a fair average.

(2) In the fog situation mentioned with the wind northwest, a sailing vessel would be headed approximately west by south if close-hauled on the starboard tack. On this tack in a fog the schooner would blow one blast on her fog horn. A steamer headed west by south would be going in the same direction and, hearing one blast dead ahead, would immediately know that the sailing vessel was ahead of her and on the same course.

(3) As the steamer is the overtaking vessel, she must keep clear of the overtaking vessel (besides which she is supposed to keep out of the way of a sailing vessel). It is optional with her on which side she shall pass. Her safest move, however, would be to starboard her helm, and go through the sailing vessel's lee. The maneuver does not come under the accepted use of the term "going under her stern," which usually means crossing the other vessel's wake.

Hatch for Outboard Motor

The use of the outboard motor as auxiliary power in sail boats up to 30 feet in length has not begun to be appreciated by the average sailing yachtsman, who wants power and yet does not want to give up



the space necessary for a permanent installation, or does not want the drag of a screw in a boat that has any speed in her.

The difficulty of attaching an outboard motor to a boat with a deck flush with the rail has heretofore kept many owners from using this type of auxiliary power. The accompanying sketches show how this difficulty is overcome by the use of a small flush hatch set in the deck with one end against the stern transom. This hatch does not weaken the boat and is not unsightly. It can also be made thoroughly watertight.

CLASSES A AND B LINED UP ON LAKE MENDOTA FOR THE

A Test of Types at the Northwestern Ice Yachting Association Regatta

By DOUGLAS VAN DYKE

IN the April, 1914, issue of YACHTING, in an article on the Second Annual Regatta of the Northwestern Ice Yachting Association, the writer, Mr. Philip Porter, claimed a good deal for the Madison type of ice boat, which proved successful at that regatta. I determined, therefore, to test out the two types still further, and had two new boats built for this year's race, Debutante II for Class C and Debutante III for Class A. The latter boat is probably the finest example (for her size) of the Hudson River type ever built. She was designed and turned out by George E. Buckhout, and carries 600 square feet of sail. Extreme lightness was obtained by using a stronger or lighter material than has heretofore been used. The runners, runner chocks and mainsheet winch are all nickel alumium; turnbuckles and other fittings are of special forged chrome vanadium steel or Monel metal. The spars and backbone are, of course, hollow. The aluminum runners are nearly flat at the bottom with a thin steel blade to prevent side slip; while mast, gaff and runner plank are shaped to reduce wind resistance, as suggested by recent tests with aeroplane struts at the Eiffel Tower.

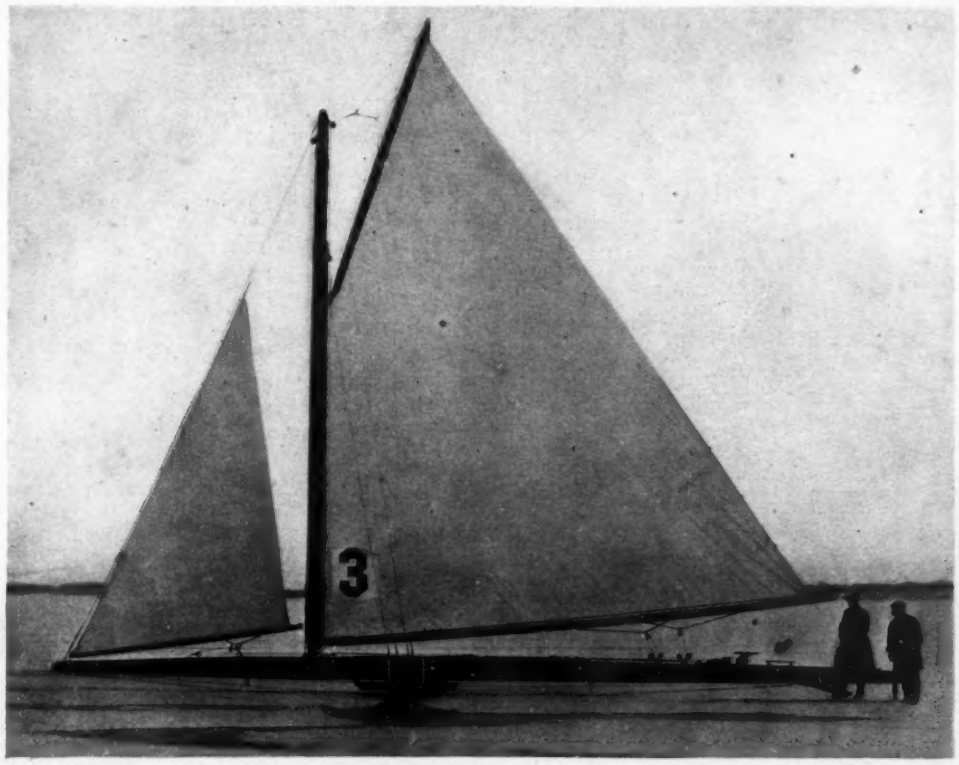
The boats were ready in time for the Third Annual Regatta of the Northwestern Ice Yachting Association, held at Madison, Wisconsin, January 19 to 23, under the auspices of the Mendota Yacht Club. The racing proved extremely interesting because of the various types of boats represented.

The Madison type is a side-bar boat with trussed runner plank and has been highly developed by William Bernard. The boats are of very light construction and usually carry a larger sail area in proportion to the length than the Hudson River type. Their advantage seems to be quickness in stays owing to shorter length, and lightness in proportion to sail area. In heavy winds extra men are carried near the runner plank, where their weight is of great benefit. The disadvantages of this type are the stiffness of the runner plank, resulting in shaking wind out of the sails when running over rough ice in light breezes, and the tendency of the bowsprit to lift owing to light construction, which results in slacking the luff of the jib and leech of the mainsail unless the mainsheet man is very efficient.

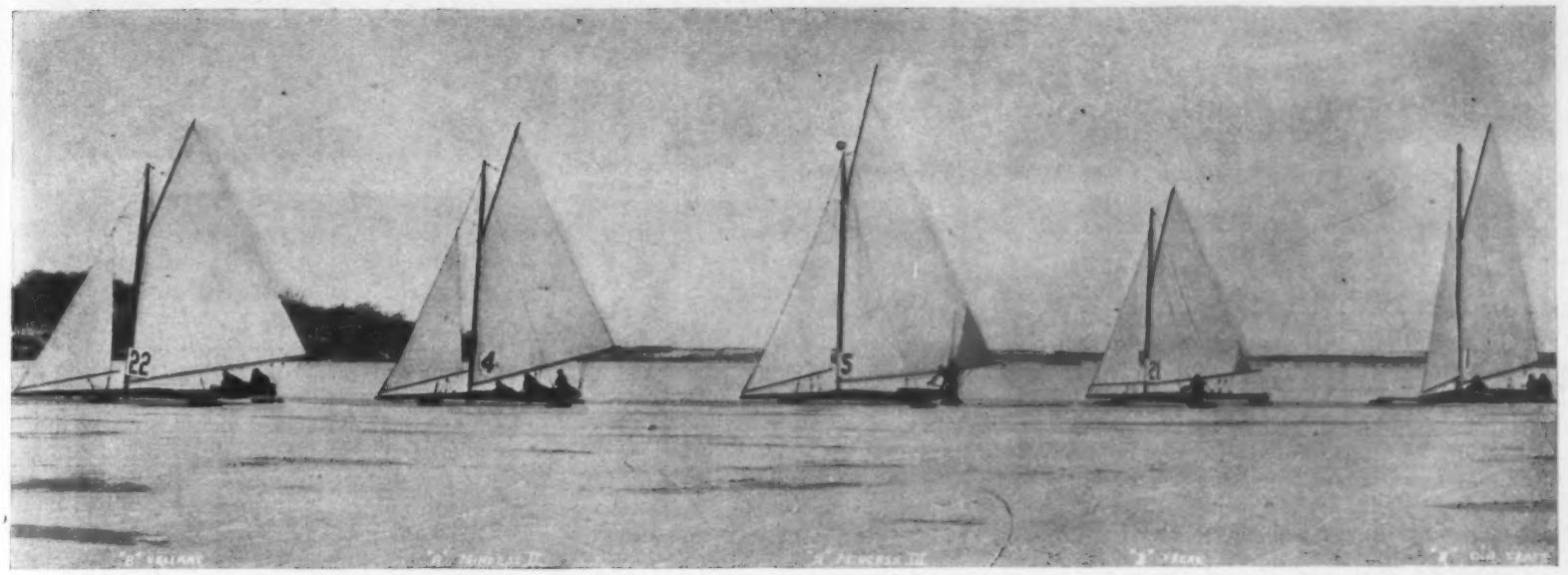
Another type represented was one worked out by Dr. Wm. H. Stanbrough, of Newburgh. This consists of moving forward the cockpit of the familiar Hudson River type and steering by means of chain and sprocket wheel or other device. It has proved very successful in small boats.

The showing of Debutante III was very satisfactory, and she won the championship in Class A, taking all four races, though the races themselves did not demonstrate, perhaps, the superiority of either type, as the Madison boats beat the Hudson River ones in the other classes.

Speed comparisons between types are difficult, for the reason that if boats are classified solely according to sail area, each designer must guess as to probable



THE SUCCESSFUL DEBUTANTE III, A NEW HUDSON RIVER TYPE ICE BOAT, BUILT TO THE EXTREME OF LIGHTNESS



NORTHWESTERN ICE YACHTING ASSOCIATION REGATTA

wind conditions, and a boat with a small, light hull would win in light weather, but might be totally outclassed in heavy weather. Conditions of ice also play an important part, for deep snow may kill the speed of a small, light boat in heavy winds, as compared with boats of greater power.

Racing these various types year after year will give valuable data as to the merits and defects of each, and may result in the evolution of an entirely new type. One essential to speed demonstrated by the races this year is the importance of painstaking attention to detail, irrespective of type.

The Madison type boats in Class A were: Princess II, carrying 440 square feet, last year's champion and winner at Kalamazoo of the Hearst International trophy for boats under 450 square feet sail area, and Princess III, a new boat with two suits of sails, one 550 square feet and one of about 470 square feet. Old Craft and Square People were both Hudson River type boats, carrying about 600 square feet. The former was well known in the East as the Aurora, and the latter is a new boat, owned by C. E. Peterson and designed by Ashley, to take the place of a former boat of the same name. She and the Princess III should be faster when tuned up.

In Class B, Valiant, the winner, is a very fine example of the Madison type, carrying 380 square feet. Debutante, which took second place, is a Buckhout boat carrying 300 square feet, and won the Class B championship and free-for-all championship last year.

In Class C the contest was between Yellow Kid II, a new Madison type boat, and Debutante II, a new boat after designs by Buckhout, but with cockpit about 6 feet forward, following the ideas of Dr. Stanbrough. Both boats carried 250 square feet. The races in this class were close and at times amusing. In the fourth race Yellow Kid II and Debutante II locked runners only ten feet from finish line, the judges deciding that Debuntante II had the right of way.

An unofficial survey showed a total length of the triangular course to be 3.608 miles. It was sailed three times around for Class C, four times for Classes A and B, and five times for the free for all. The ice was hard and covered with from one to two inches of snow. A summary of the racing follows:

Class A	Wind S.E., 7 Miles. 1st Race.	Wind N., 12 Miles. 2nd Race.	Wind N., 14 Miles. 3d Race
Debutante III	1st, 58:6	1st, 33:47	1st, 30:7
Princess II	2nd, 1:7:5	2nd, 37:49	5th, 35:27
Princess III	3rd, 1:14:28	3rd, 38:6	3rd, 33:55
Square People	Withdrew.	6th, 40:24	4th, 34:56
Toot Toot	4th, 1:24:30	5th, 38:26	2nd, 33:50
Old Craft	5th, 1:40:30	4th, 39:18	Disabled.

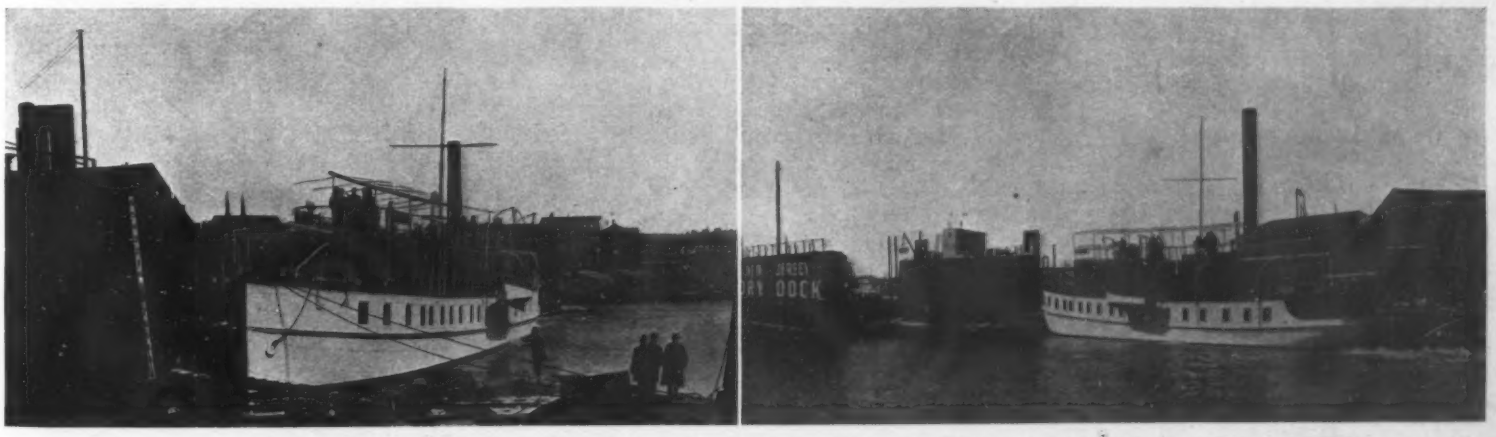
Class B.	Wind N., 10 Miles.	Wind, N., 12 Miles.	Wind N., 10 Miles.	Wind N., 11 Miles.
Valiant	1st, 36:27	5th, 39:56	1st, 37:30	1st, 44:42
Debutante	3rd, 37:38	1st, 35:57	2nd, 40:10	2nd, 47:00
Yellow Kid	4th, 37:52	2nd, 36:28	6th, 44:46	Withd'n.
Freak	2nd. 36:56	3rd, 36:47	4th, 42	Withd'n.
Flit	5th. 39:8	4th, 37:54	5th, 43:15	Withd'n.
Defiance	Withd'n.	6th, 40:10	3rd, 41:29	Withd'n.

Class C.	Wind N., 7 M.	Wind N., 12 M.	Wind N., 10.5 M.	Wind N., 11.6 M.	Wind N. 13.17 M.
Debutante II.	2nd, 29:5	2nd, 26:30	1st, 30	1st, 41:15	1st, 28:6
Yellow Kid II.	1st, 28:21	1st, 26:13	2nd, 31	Dis.	2nd, 31
W. L. B.	29	34			

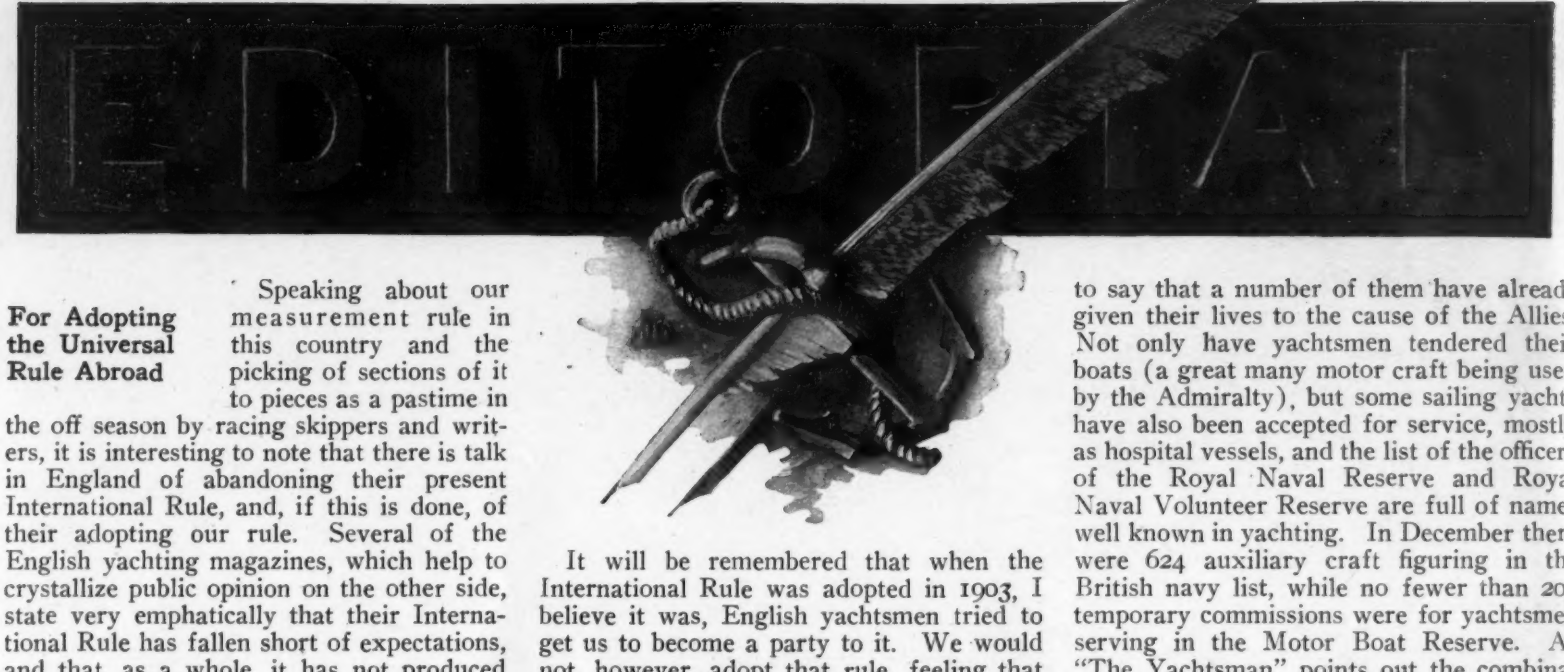
Free for All. Peterson Cup.	Wind, N.W., 10 Miles.
Dubutante III	59:5
Princess III	1:08:8
Old Craft	1:09:10
Princess II	1:11:5
Toot Toot	1:12:23

Captiva

Captiva, a new power houseboat owned by Payne Whitney, which has just been completed, is the largest craft of this type yet built. She is 130 feet 6 inches long overall; 121 feet on the water, with a beam of 21 feet and 4 feet draft, fully loaded. She is built entirely of steel with the side plating carried to the upper deck, while her accommodations are unusually roomy, there being six large state rooms, each with a bath connected. There is a large dining saloon, lounging room, vestibule and pantry in the deck house, and ample quarters for her crew aft. An unusual feature is her speed. She is powered with two 200 horsepower Winton's, which are designed to drive her at 14 statute miles per hour. The designers, Gielow & Orr, have followed the practice in their recent boats of having exceptionally large rooms, so that the boat is not cut up into a lot of small apartments.



THE NEW 130-FOOT POWER HOUSEBOAT CAPTIVA, WITH TWO 200-HORSEPOWER ENGINES SHE MAKES 14 MILES AN HOUR



For Adopting the Universal Rule Abroad

Speaking about our measurement rule in this country and the picking of sections of it to pieces as a pastime in the off season by racing skippers and writers, it is interesting to note that there is talk in England of abandoning their present International Rule, and, if this is done, of their adopting our rule. Several of the English yachting magazines, which help to crystallize public opinion on the other side, state very emphatically that their International Rule has fallen short of expectations, and that, as a whole, it has not produced as good a type of boat as was expected, or, they say, as good a type of small boat as our Universal Rule. Without going into the question of whether our rule is the best that can be devised, there is a tendency to adopt a rule that has already stood the test of several years' trial, that has produced a good type of boat, and that, so far, the designers or "rule beaters" have not been able to punch much of a hole in.

It will be remembered that when the International Rule was adopted in 1903, I believe it was, English yachtsmen tried to get us to become a party to it. We would not, however, adopt that rule, feeling that we could devise a rule that would more nearly answer our own particular needs.

English Yachtsmen Seeing War Service

Speaking about English yachtsmen, it is interesting to note the part the British amateur sailorman is playing in the war now raging so hotly on the other side of the Western Ocean. We regret to say that a number of them have already given their lives to the cause of the Allies. Not only have yachtsmen tendered their boats (a great many motor craft being used by the Admiralty), but some sailing yachts have also been accepted for service, mostly as hospital vessels, and the list of the officers of the Royal Naval Reserve and Royal Naval Volunteer Reserve are full of names well known in yachting. In December there were 624 auxiliary craft figuring in the British navy list, while no fewer than 207 temporary commissions were for yachtsmen serving in the Motor Boat Reserve. As "The Yachtsman" points out the combination of yacht sailor and motor boat is a very useful one to the navy. "The motor boat is a mobile, easily handled vessel; the yachtsman has sea-experience and a developed instinct higher and more comprehensive than of those men who have never shipped in other than mechanically propelled craft. A combination of the two—such as has been effected by the institution of the Motor Boat Reserve—is ideal."

The Bermuda Race

AFTER a lapse of a year there is going to be another power-boat race to Bermuda this spring. Two owners have already signified their intention of entering boats; one of the craft is the 32-foot Cruisette exhibited at the New York Motor Boat Show recently, the other a new boat building for Mr. W. P. Frost, of New York, by the Luders Marine Construction Company. This boat is just 40 feet in length overall, and will be named the Cero. It is hoped and expected that other boats may enter. The Dream, the winner of the last two races, may be induced to take another "shy" at the Cup, and likewise Eronel.

The former rules have been amended so as to allow boats under 40 feet in length to start, and the race will be started the latter part of May, at which time of the year good weather is usually experienced on the Atlantic Coast and in the neighborhood of Bermuda.

The date fixed for the start is Saturday, May 22, at 3 P. M., from the Crescent Athletic Club, Bay Ridge, which organization will handle the New York end of the event. The race will be run under the same general conditions that prevailed in the 1913 race, except that time allowance will be figured under the A. P. B. A. rules with engine revolutions counted in determining horsepower, as provided in the present A. P. B. A. rules. Time allowance will be figured on 50 per cent of the full time allowance tables. Boats must be provided with permanent tankage holding sufficient fuel to carry them to Bermuda and half way home. Full conditions and entry blanks may be obtained by writing YACHTING, 141 West Thirty-sixth street, New York.

Collection and Removal of Driftwood in New York Harbor

Through the efforts of the Greater New York Waterways League and the chairman of its committee on the removal of driftwood, Commodore Joseph W. Masters, the Federal Government is about to undertake the collection and removal of driftwood from the lower Hudson River and New York Harbor. Congress has sanctioned the use of Federal funds for this purpose, and the following provision was inserted in the last River and Harbors Appropriation Bill: "Harbor of New York; so much as may be necessary of any appropriation or apportionment made for specific portions of New York Harbor and its immediate tributaries may be allowed by the Secretary of War for the maintenance of these waterways by the collection and removal of drift." A special vessel will be built for this purpose, and its supervision and operation will be under Colonel Wm. M. Black of the Corps of Engineers. Steps are already under way to have this boat built, and Colonel Black expects to have her in operation before the end of the present boating season.

This is a great piece of work that has been accomplished by the Greater New York Waterways League, and one which several other organizations have endeavored for some time to accomplish, but without success. This shows what concerted action can do, and all boat owners and yacht clubs in New York district should lend their hearty support to the work of the League.

Death of a Well-Known Yachtsman

Canadian and Great Lake yachtsmen will learn with deep regret of the death of Major George Higinbotham at the front, fighting for the Allies. Geo. Higinbotham, besides being one of Canada's well-known amateur sailors, was a Major in the Queen's Own Regiment, and went to England with the first Canadian contingent. A detachment of his regiment was sent to France with the first Canadian troops, and, in serving in the trenches, Major Higinbotham suffered from an attack of gastritis. This necessitated his removal to a hospital, where he died. Geo. Higinbotham will be remembered as one of the crew of the Patricia, which won the Yacht Racing Union Cup from the Chicago Yacht Club in 1912. In 1913 he was one of the judges in the race for the Manhasset Cup between the Rhode Island Yacht Club, the Chicago Yacht Club, Jackson Park Y. C. and South Shore Country Club. He endeared himself to everyone with whom he came in contact, both on account of his true sportsmanship, his quiet good nature and unfailing fairness.

No more deserving term could be applied to him than what was said of him at the time of the Patricia race, when he was described as "moral ballast" for a crew that was up against a very tough job.

A New Yacht Racing Association on Massachusetts Bay

By the amalgamation of the two leading associations on Massachusetts Bay, yacht racing on those waters should receive very apparent benefits. Heretofore the governing bodies in yacht racing on Massachusetts waters have been the Yacht Racing Association of Massachusetts Bay and the Inter-Club Yacht Racing Association, the former association only recognizing yachts in the regular classes and one or two special classes, while the Inter-Club controlled a large fleet racing under a special measurement rule and divided into classifications to suit the existing fleet in those waters.

These two associations have amalgamated, the name of the new association being the Yacht Racing Union of Massachusetts Bay. This will give one controlling body in yacht racing. The existing classifications will, on the whole, be retained with the exception of a few that heretofore conflicted, and which will be dropped. Championships in all classes will be figured on the point system heretofore used by the Inter-Club Yacht Racing Association, which consists of allowing one point to each boat for starting in a race and one point for every boat that she beats. The head of the new organization is Ralph Goudey, who has long been identified with yacht racing. The Boston Y. C. has withdrawn from the new organization but is working in harmony with it.

Boston Yacht Club Flag Officers

At a recent meeting of the Boston Yacht Club, A. W. Chesterton, of the schooner Shawmut (formerly Tammany), was elected commodore, A. C. Jones, of the Class P. sloop Nutmeg III, vice-commodore, and C. N. Burnell, rear Commodore.

New Class "R" Racer

A new boat to dispute the honors in Class "R" on Massachusetts Bay next summer is being built for Mr. Francis Breed from designs by George Owen.

ONCE MORE THE STARS AND STRIPES MAY BE SEEN FLYING OVER A FULL-RIGGED SHIP. SHIP VINCENT LEAVING NEW YORK ON A VOYAGE ACROSS THE WESTERN OCEAN WITH A CARGO OF COTTON. SHE IS ONE OF THREE SAILING SHIPS PURCHASED FROM ENGLAND UNDER THE ACT OF AUGUST, 1914

Death of George Lawley, Sr., Founder of the Well-known Yacht Building Firm

It is probable that every man who has handled a pleasure boat or been interested in yachting in this country knows the name of Lawley. This, the oldest of American yacht-building plants, is linked with the growth and development of American yachting more than any other concern. The present George F. Lawley, known to all present-day yachtsmen, was not the founder of the Lawley works, though he has been connected with it since the early sixties. George Lawley, his father, who died on February 27th at the advanced age of 92, was the originator of the Lawley yard. He was born in England in 1823, and when he was 28 came to this country. In 1854 he settled in East Boston and took up shipbuilding. Here he stayed until 1866, when he moved to Scituate, on the South Shore, and, with his son, George F., the present head of the corporation, started a ship- and boat-building plant. Eight years later they moved to South Boston, where they set up their shop. Boston Bay was one of the early yachting centers of the United States, and the Lawleys naturally got into the building of yachts.

The firm first attained national and international prominence in 1885, when they built their first America's Cup Defender, the Puritan, designed by Edward Burgess, then an obscure naval architect, who had lately entered the professional ranks. This yacht was so successful that she not only made a name for her designer, but also for her builders, and the next successful defender, the Mayflower, came from the same yard. Thereafter the Lawleys turned out many of Burgess's successful yachts. This firm also built the Jubilee for the defense of the Cup in 1891, and the Independence in 1901, while in 1914 they were again represented in the America's Cup trial races with the Gardner-designed Vanitie, owned by A. S. Cochran.

The New York-San Francisco Power-Boat Race

The longest power-boat race ever held is scheduled to start from New York on October 1st, 1915, off the Atlantic Yacht Club, with the finishing point off the Panama-Pacific International Exposition at San Francisco, Cal. The race is a total distance of 5,730 nautical miles, exclusive of the 42 miles of the Panama Canal. The race is sanctioned by the American Power Boat Association, and will be known as the Long-Distance Cruiser Championship of America.

The conditions as drawn up by the committee in charge of the event are as follows:

BOATS

The race is open to boats propelled by internal combustion motors (using either gasolene, kerosene or crude oil as fuel) and coming under the definition of cruisers as defined by the American Power Boat Association in their 1915 Year Book. No competing boat shall be less than 55 feet L.W.L. or more than 100 feet, L.W.L. Engines must be below deck or thoroughly housed in. The committee reserves the right to pass on any entry as to equipment, seaworthiness and general ability of the boat and crew to perform a long-distance passage in open water.

RATING, ETC.

Rating will be calculated, and time allowance figured under the 1915 rules of the American Power Boat Association with horsepower calculated according to the following formula:

$$\text{H. P.} = \frac{A \times N \times S \times R}{C}$$

A = area of one piston in square inches.
N = number of working pistons.
S = length of stroke in inches.
R = maximum number of revolutions obtainable from motor under racing conditions. The revolutions to be declared by the owner.
C = a constant, as follows: For 4-cycle gasolene, C = 12,000; for 2-cycle gasolene, C = 9,000; for 4-cycle Diesel, C = 9,600; for 2-cycle Diesel, C = 6,000.

The boats will start according to the handicaps figured as above, and the 1915 American Power Boat Association racing rules will apply where not otherwise stated by the committee.

No boat will be allowed to start from any of the ports of call with fewer than eight men aboard, one of whom shall be a practical navigator and one of whom shall be a practical engineer.

The various legs of the course are as follows::

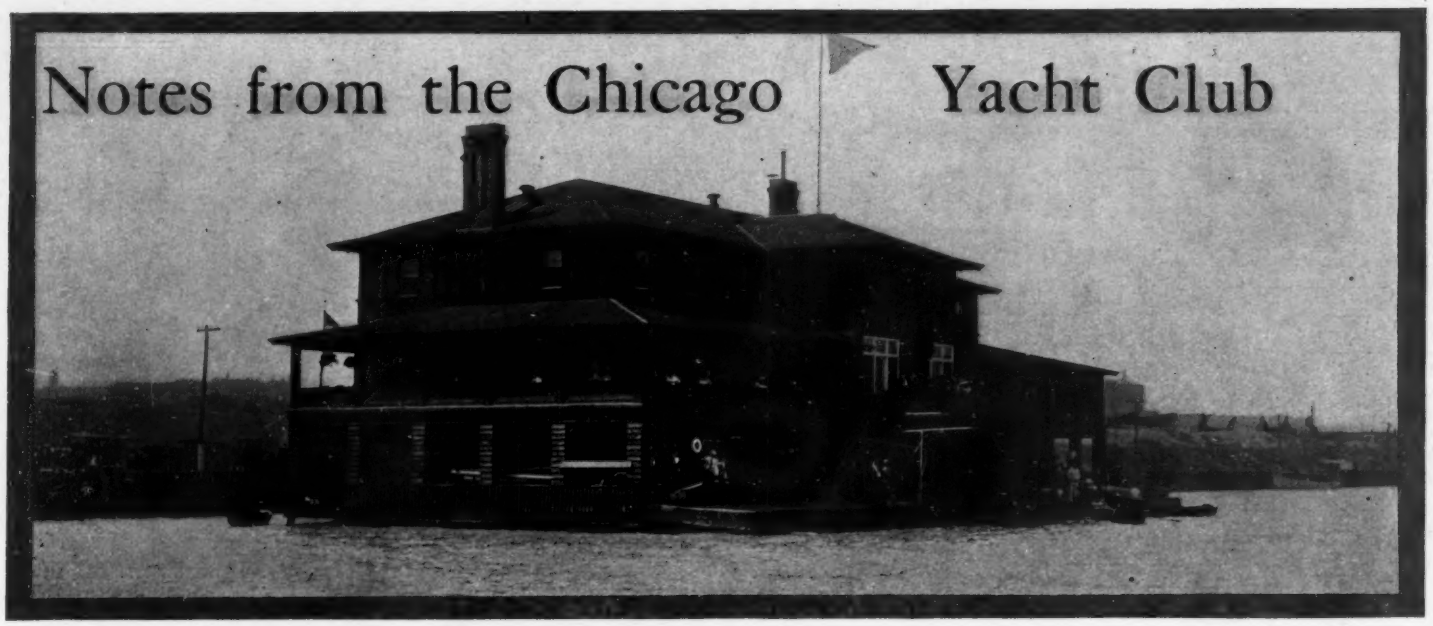
	Miles
Atlantic Y. C., New York to Charleston, S. C.	627
Charleston to Key West, Fla.	588
Key West to Cristobal, Panama	1,070
Balboa to Corinto, Nicaragua	683
Corinto to Salina Cruz, Mexico	525
Salina Cruz to Mazatlan, Mexico	877
Mazatlan to San Pedro, Cal.	1,002
San Pedro to San Francisco, Cal.	358

One hundred and ninety-two hours' stop en route is required, to be divided according to the desire of each contestant, thus allowing an average stop of twenty-seven and one-half hours at each port, exclusive of Panama.

An additional 48 hours must be taken from the time each boat leaves Colon until it leaves Panama. This provides for a very leisurely canal passage or a long rest at Panama.

All communications and entries should be addressed to Thomas D. Bowes, chairman, No. 822 Lafayette Building, Philadelphia, Pa.

Notes from the Chicago Yacht Club



There is pretty good prospects of a race for the Manhasset Challenge Cup this summer, besides a race for a new trophy that will be put up, called the East-West Trophy, intended to encourage competition between the sailors of the Great Lakes and the Atlantic seaboard. Commodore Heyworth has been in touch with both the New York yachtsmen and Massachusetts Bay "P" boat owners with this end in view.

Some members of the Indian Harbor Yacht Club were considering a syndicate boat to be sent out, in charge of Addison Hanan, to try conclusions with the Valiant. Plans had been pretty will matured, but Hanan writes that his health will not allow him to sail this summer, and, at present, a challenge from this quarter is still unsettled. There is every likelihood, however, of a challenge from Massachusetts Bay. If a three-cornered race could be arranged between Massachusetts Bay, Long Island Sound and the Chicago Yacht Club it would be the greatest yachting fixture of the season, and would be worth going miles to see. Valiant has proved herself the best boat on Lake Michigan, and, with a representative boat from each of the other sections mentioned, the top-notch of perfection in the "P" Class would probably be seen.

The "R" Class will also be strong on Lake Michigan waters this summer. Samuel Dauchy has bought Lawrence Percival's Sally XII, which won the Indian Harbor Cup for Massachusetts Bay last summer, while Otto Shoenwerck will have a new boat in this class from designs by Alden. With Ogden McClurg's XXIX there will be good scrapping in that class.

With two well-filled universal classes and the other special classes some real racing ought to be had, while the annual fixtures in the long-distance events will keep the weekly triangular races from becoming monotonous.

The meeting of the Yacht Racing Union was held in Chicago the last of February and several important matters were settled. A great deal of fun was had over the question of the method of carrying a spinnaker and also the size of it—important legislation which was much needed.

It will not be long now before the clubhouse is opened and the winter quarters closed.

Ex-Commodore William Hale Thompson was chosen Republican nominee for Mayor of Chicago at the primary elections. If elected, we suppose that we may look for a yacht club cabinet.

News of the New Rochelle Yacht Club

The members of the New Rochelle Yacht Club are beginning to crawl out from behind the stove and to stick their noses outside of the sun parlor of the old house on Harrison Island, sniffing the salt air these fresh, mild Sundays. A few of them are already peeling off their coats, figuratively speaking, in anticipation of the summer's work.

Covers are already off a number of the boats in Larson's yard and work has been begun on them. "Marty" Kattenhorn's Surprise and Charlie Marsland's Guardia are already overboard and swinging to their moorings in Echo Bay.

The grounds on Harrison Island are being put in condition and the clubhouse cleaned and freshened up preparatory to the opening in May. There is talk of a boosters' dinner some time in April, with a view to getting new members interested in the club, but full particulars have not been decided on yet.

The signs of spring on the Island, however, have not had any effect on the trapshooters, and they did "some shooting" on March 14th, when 17 shooters were out and some of the best scores of the season were turned in. Scott was high scratch that day, with 94, and he and Moore both won legs on the Accumulation Cup, while Hatch won the sweepstakes. Nine of the shooters broke over 80 birds out of 100.

Our team won again in the inter-club match for the DuPont Trophy at the Bayside Yacht Club on February 27th. This gave us two legs on the trophy, and the third and last match was held on March 20th at the Marine and Field Club, Bath Beach, Brooklyn. Our boys did well, and won with a good margin. Final score on the match was New Rochelle 12 points, Bayside Y. C. 8 points, Marine and Field 6, and Manhasset Bay 4.

We wonder how many of the old members of the club remember the clubhouse as it stood on Echo or Gut Island at the mouth of the harbor when it was first erected in 1885. The picture herewith, which was furnished through the courtesy of ex-Commodore Pryer, was taken in 1890, when the club was still on that island, before it was moved to Hudson Park. By the way, the New Rochelle Yacht Club is the third oldest yacht club on the Sound, being antedated only by the Larchmont Yacht Club, which was organized in 1880, and the American Yacht Club (practically a steam-yacht club) in 1883.

The Long Island Yacht Racing Union schedule is out, and gives the New Rochelle Yacht Club July 3 and August 28 as the dates for its regattas.

NEW ROCHELLE YACHT CLUB IN 1890 ON GUT ISLAND

(18th Century) Bonhomme Richard and Serapis.

Long ago in Revolutionary days when Paul Jones engaged the British, the conflict was one of ball and powder, of cutlass, dirk and axe.

But with the friendly competition of sport, the rival ships have been no longer men-of-war but cup defenders, and we have met the enemy not with shot and steel but conquering suits of

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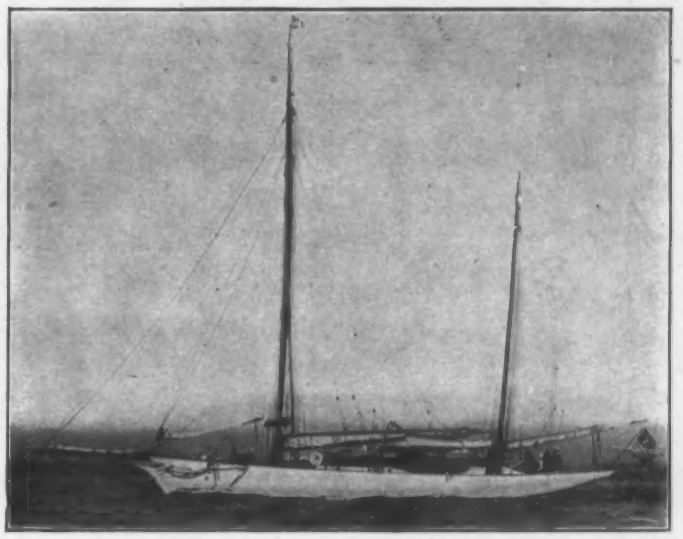

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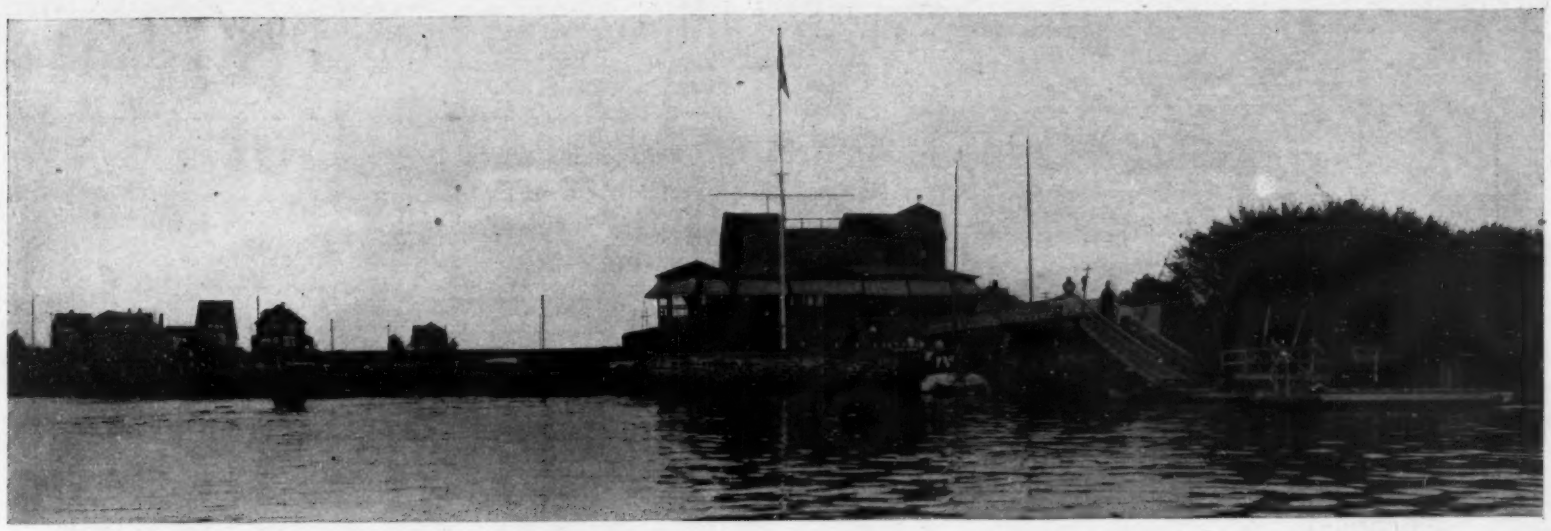

What's Doing at the Harlem Yacht Club

The roster of the club has been increased by the addition of many new members. The limit of membership fixed by the charter is in sight, and it behooves those who desire to join to file their applications immediately, or else experience the delights of holding down a waiting list.

Zingara, Fred Newton's Buzzard Bay "thirty," is being spruced up for the coming season, and, as Fred says, it will be "some season." Business permitting, he has outlined an extensive cruise which will consume quite a part of the summer. While we would dislike to rob Fred of the enjoyment of such a trip, and the guests of his well-known hospitality, still the club will be a dull place without him, and he will be missed.

While on the subject of long cruises, ex-Commodore Frank Sullivan is already recruiting a crew for a cruise down East, to begin about July 1 and to end in September. Frank is preparing a schedule of stopping-off places that looks like a railroad timetable, but which is designed to permit the discharging of old and taking on of new crews.

"Ed" Tucker has been selected chairman of the regatta committee. At the time of this writing we have not been informed who his associates on the committee are. While "Ed" is perhaps a bit new to the club, his selection was well considered, and both he and the club are to be congratulated. We have not heard of plans being settled as yet for the Bay Race series, but without doubt what has been the principal topic at the club and the subject of many remarks in these columns will be acted upon. All that is necessary for the success of the series is a live, hustling chairman of the regatta committee, who knows his job and is willing to do a little missionary work among the reluctant members, and such a man we believe we have secured. (Poor Ed!)

Speaking of Bay races, we are informed that a cup has been donated by Mr. Josef Pheganne, who is an ardent follower of the sport.

Signs of Spring

Joe Acker, Jr., has engaged quarters on City Island.

Earnest individuals are seen sticking jackknives into alleged soft spots.

Somebody has been tinkering with the lawn sprinkler and now it won't sprinkle.

Paint, cans, shavings, spars and "injun" experts have blossomed in the yard back of the club.

Canvas is being peeled off the boats.

"Tom" Press Sundayed at the club last Sunday.

The press committee is in receipt of a poem labeled "Spring."

"Joe" Lyons and "Rudy" Weiscker are signing roof-garden contracts these days.

George Jarchow has laid in a stock of sassafras, sarsaparilla, soda and sulphur.

Mr. "Bill" Rice, the oldest inhabitant of City Island, is seated in front of the hardware stove.

"Well," said "Ben" Bates, musingly, "the best thing about a woden leg is you can keep up your socks with thumb tacks."

Somebody's perpetrated this:

It's a long, long way to City Island,
It's a long way to go:
It's a long way by trolley,
It's a long way to row.
Goodbye to the trolley,
Goodbye to fare,
For it's a long way to City Island,
But my Ford's right there.

"Doc" Martin relates having called on an Irishman who was very ill. Having done what he could "Doc" left after instructing the man's wife to take the man's temperature in the morning. Later in the day he called and inquired for the patient, when the woman replied: "Well, we hadn't a thermometer in the house so I got the barometer and put it on his chist, and it said 'very dry.' So I gave him a bottle of beer and he's gone to work."

Michael Macreedy, the genial member of the Watawa's after-deck board of strategy, simply clad in a becoming bathing suit of peacock blue, tripped lightly forth from the locker room last Sunday and carefully picked his way to the water's edge. Observers on the club porch shivered expectantly as he stood balancing first on one foot then on the other, like Vernon Castle in the fox trot. Suddenly his fair form launched into space, cleaving the water like a butcher's cleaver on a parcel of chopped meat. It was the first swim of the season, and a short one.

Thus far we have heard of but two new boats that will be brought into the club—Mr. John Lalor, so rumor hath it, is the owner of Dixie, rating in Class "Q," and Mr. Frank Mullfeld has purchased the sonder Sally VIII.

Preparations are under way for the annual going into commission event, which, like the winter dance, promises to eclipse all prior efforts.

Portland Yacht Club Activities

The March meeting of the Portland Yacht Club was even more successful than the preceding one. Considerable interest is being shown by the members in the new banquet room and the increasing of the membership roll, several new members being admitted at this meeting.

The matter of observing our 47th Anniversary was left in the hands of the Entertainment Committee. The committee will have the annual banquet at the club house and will use the new banquet room to seat the party.

A unique feature of the occasion is that a United States Admiral, a United States Representative, a Governor, a Mayor, all members of the club, will probably be seated at the banquet table.

The secretary has already extended the invitations, three of which have been accepted.

Commander Roger Upton and Flag Lieutenant N. L. Stebbins, of the United States Power Squadron, and H. L. Stone, editor of YACHTING, will also be in attendance. This year's banquet promises to eclipse all previous efforts, many of the oldest members having already promised to be present.

The Little Dinner, March 13th, marked the dedication of our new room, and all present were loud in their praise of the improvement. During the evening the party enjoyed three wrestling matches and three boxing contests. They were, of course, of a friendly nature, but each of the contestants was none the less sincere in trying to show his ability to outpoint his opponent.

Bishop Codman has purchased, through Hollis Burgess, of Boston, the steam yacht Hope, 86 x 78 x 12 x 4. She was designed by Arthur Binney and built in 1901 by Chas. L. Seabury & Co.

Courtesy cards are being sent to the various clubs by the secretary. An invitation to exchange is extended to all yachting organizations. The latchstring of the Portland Yacht Club is always out to all visiting yachtsmen.

The Year Book is ready for distribution and will be sent with the notices for the April meeting.

Ex-Com. C. W. Bray, who has been spending the winter in the South, is expected home the early part of the month.

Secretary F. W. Wardwell attended the meeting of the United States Power Squadrons at the Hotel Manhattan, New York, the 19th of last month.

A Smoking Talk and School of Instruction was held the 10th of March by the members of the Portland Yacht Club Power Squadron. Lieut. Commander Hunt put the class through a series of drills with miniature models, also giving the members present several questions each, their answers showing conclusively that they were all competent navigators.

The first Annual Dinner of the Portland Yacht Club Power Squadron will be held the 10th of April. Commander Roger Upton and Flag Lieutenant N. L. Stebbins will be the guests of honor.

Mr. Cramer, of the Newark (N. J.) Yacht Club, and Mr. Gannet, secretary of the Massachusetts Bay Yacht Racing Union, were guests of the club March 13th.

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MOTOR BOAT
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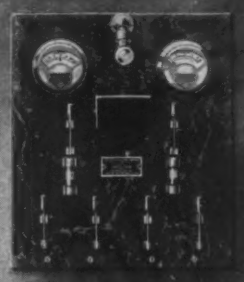

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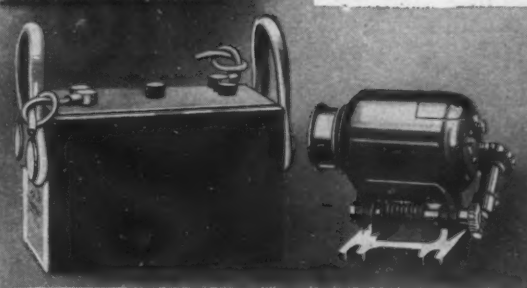

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Bill Tarfin observes: "'Holy Sailor' is a perfane expression fur I never knew a holy sailor yet. Devil dodgin' an' Bible thumpin' ain't to be found aloft on th' weather yard-arm in a breeze o' wind. The only holy shipmate I ever was shipmates with was th' galley stove, and it *was* wholly SHIPMATE. What are ye lookin' so savage about?"

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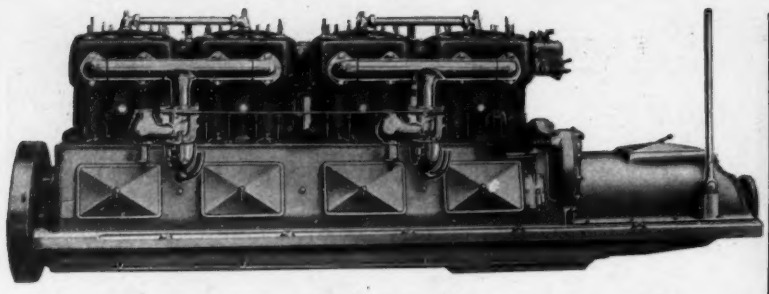
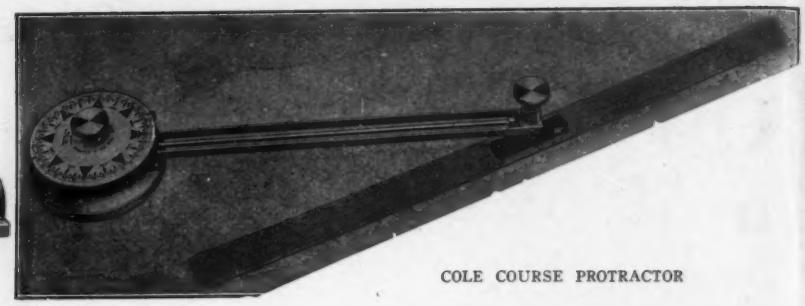


NEW STERLING 300-HORSEPOWER, 8-CYLINDER, HEAVY-DUTY SPEED ENGINE



COLE COURSE PROTRACTOR

Of Interest to the Skipper

An Outboard Motor with Some New Features

With the increase in popularity of the outboard motor and the number of uses to which this handy type of power may be put, the Joy Engineering Company, of Chicago, Ill., have put on the market a new portable engine called the Joymotor, which has a number of excellent features to recommend it. One of the features is that it is universally adaptable in that the makers claim that this is the only type of motor that will fit every type of boat or canoe—square stern, pointed stern, decked stern, or through the bottom of a canoe, in which case there is a special low-down bracket attachment. The Joymotor has positive control and is steered by a tiller which turns the propeller and propeller shaft. There is also an attachment for locking the tiller so that it can be "set" and the boat steer itself. It has positive propeller reverse, a waterproof magneto and everything that shows the refinement and workmanship of an engine that is built right.

Get a Real Mooring this Year

This is the season when you pick out your location for a permanent mooring and get the "mushroom" planted before the choice spots are all taken. While you are about it you had best make up your mind to get a mooring outfit that will hold, no matter how hard it blows, and save the worry you may have had other summers whenever the wind hit up a 25-mile gale or over.

The best and most effective mooring anchor is a mushroom. The reason for this is that the saucer-shaped end works down into the mud deeper and deeper until it is completely buried so that no amount of strain will pull it. To work down into the mud properly it must lie on its side with the shank flat on the bottom. That is why the Fairhaven Bulb Shank mooring is so effective. The heavy weight, or bulb, on the upper end of the shank insures the mushroom lying in the proper position to bury itself effectively. Besides this, the bulb, by preventing the shank from standing upright, does away with the danger of the shank punching a hole in the bottom of your boat if it should ever settle on the anchor at some extremely low tide.

Be sure to get a heavy enough outfit. If you write to the Fairhaven Iron Foundry Company, Fairhaven, Mass., they will send you a booklet telling you just what size mooring and chain you will need for your particular boat.

Sterling 300-H. P. Heavy-Duty Speed Engine

The Sterling Engine Company have been quick to recognize the fact that for satisfactorily meeting the constantly growing demand for power for the new type of express cruisers and swift naval craft only an engine designed and built expressly for these different requirements could ever be permanently acceptable. Their engineers were given the task of constructing a long-stroke motor to turn at 1,000 revolutions per minute, and they have perfected an eight-cylinder, 6¾" x 9", high-speed, heavy-duty engine of super-refinement, designed to turn at from 500 to 1,000 R. P. M., and delivering 300 H. P. at 1,000 R. P. M. A series of these engines is now under construction in the Sterling shops. The photograph herewith was taken just after the engine shown came off the test blocks, where it was run at a speed of 1,200 R. P. M. with absolute evenness and little noise and vibration. With its long stroke of 9 inches and each piston consequently traveling 21,600 inches every minute, it is obvious that the design and workmanship entering into the construction of this engine must have been of a high quality in order that it might stand up and run with regularity and precision.

Many of the features of this big engine are a departure from the usual. The cylinders are T-head, of selected quality semi-steel, paired en bloc, and the weight is from 5,000 to 6,500 pounds, according to requirements.

For Working Up Courses

An interesting instrument which the Marine Compass Company, of Bryantville, Mass., has recently perfected is a course protractor that will be a great boon to the navigator. This consists of a heavy-weighted dial, marked with the points of the compass and degrees, just like a compass card. To this is attached a movable arm, and at the end of this arm is a cross-ruler hung in the center and movable. Two hands, or pointers, on the face of the dial move in such a way as to always be parallel with the protractor arm, so that after the dial is once set on a known point of the compass, say N. and S. or E. and W., any movement of the cross-ruler will be marked by the hands on the dial. The accompanying drawing will show how this works.

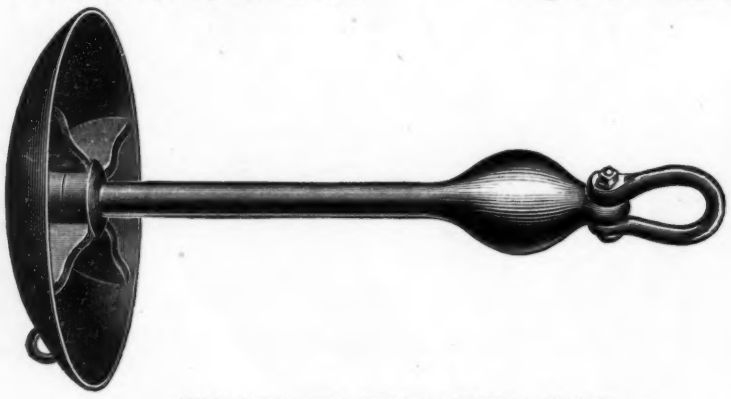
To set, the ruler is placed on some easily recognized point of a compass rose, such as E. or W. Turn the dial by means of the thumb nut at the top, so that the reading under the two little pointers is also East and West, the ruler being kept in its position on the printed rose while doing this.

The protractor is now in adjustment, and the direction of any position of the ruler is automatically given by the two movable pointers over the dial. The dial is to be kept fixed by keeping the fingers pressed on the knob at the top of the dial. Then swing the ruler around to any desired course or bearing on the chart and this course can be instantly read on the dial.

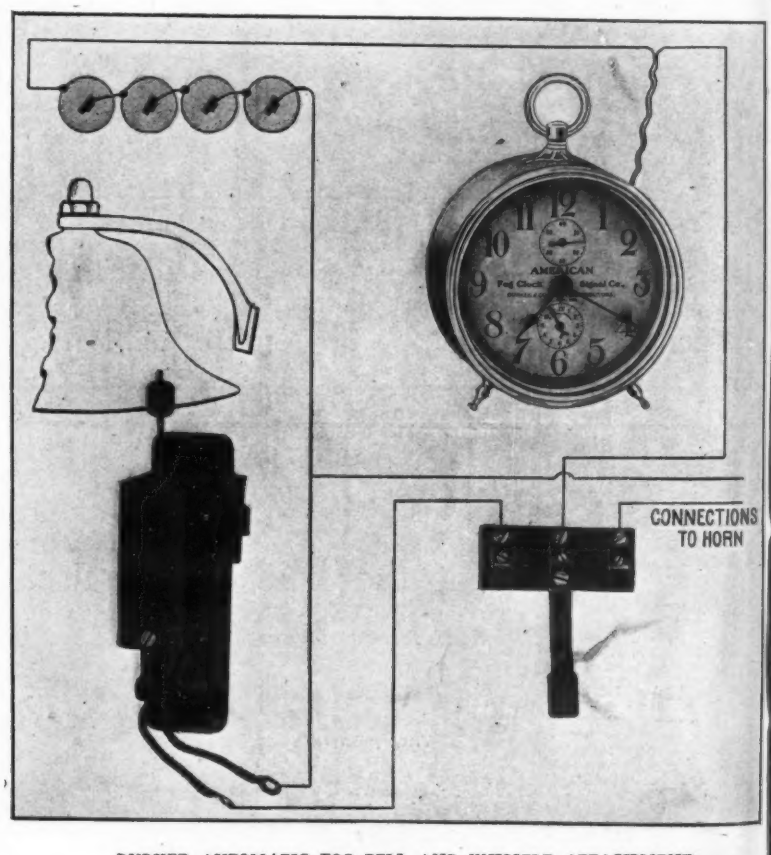
Automatic Fog Bell Attachment

C. D. Durkee & Co.'s catalogue for 1915 is off the press and contains more material than ever, although by being printed on a lighter-weight paper it is not as bulky as in previous years. By reducing the size of many of the illustrations shown in former catalogues and the use of smaller cuts for the newly added materials, its artistic appearance is also greatly enhanced.

(*Continued on page 218*)



FAIRHAVEN BULB SHANK MOORING ANCHOR



DURKEE AUTOMATIC FOG BELL AND WHISTLE ATTACHMENT

PAGES 215-216 ADVERTISEMENTS

Owners of Yachts and Motor Boats

should be particular to order a season's supply of the great yachting beverages

Evans' Ale and Stout

They are the most dependable and enjoyable of all beverages and contribute to the pleasure of everybody at all times under all conditions upon all occasions. They save the day in gale or calm. The perfect yachting beverage that nothing can spoil.

The Only Ale and Stout Without Sediment
A Good Substantial Drink *Easy to Serve, Always Ready*

Take them with you wherever you go. Drink them wherever you are.

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C. H. EVANS & SONS Established 1786 HUDSON, N. Y.

Sonderklasse Champion "ELLEN"
Sails made by WILSON & SILSBY, Rowe's Wharf, Boston, Mass.
Write us for Estimates and Samples

See the Captain, the Owner and his Guest comparing and setting their watches at 8 BELLS, *struck* on the Large BELL forward by the (Patented) STRIKING "CHELSEA" AUTOMATIC SHIP'S BELL CLOCK

The small "CHELSEA" ship's Bell clock in the cabin operates the large bell forward. Clock and bell can be located to suit wishes of owner. By a special push button, the bell can be rung continuously; very useful in case of fog, etc. If so desired, as at night, the striking on large bell can be omitted. ANY of the many plain or elaborate models of the "Chelsea" Ship's Bell Clocks can be outfitted by us to operate our Automatic outfit. Every Yacht, medium and large-sized Motor Boat, House Boat, Steamship, Yacht Club, Marine, Naval Architect and Shipping Office, Seashore and Country Estate, etc., should be equipped with one of these attractive and useful outfits. For country estates, etc., gives audible time over large area and permits system of calls from residence for Chauffeur, Gardener, Coachman, etc., very useful.

☞ On sale by Dealers in Nautical Instruments and High-Class Jewelers

CHELSEA CLOCK CO., 16 State St., Boston, Mass., U. S. A.
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REPUTATION THE HIGHEST AND WORLD WIDE
SHIP'S BELL, MARINE, HOUSE and AUTOCLOCKS

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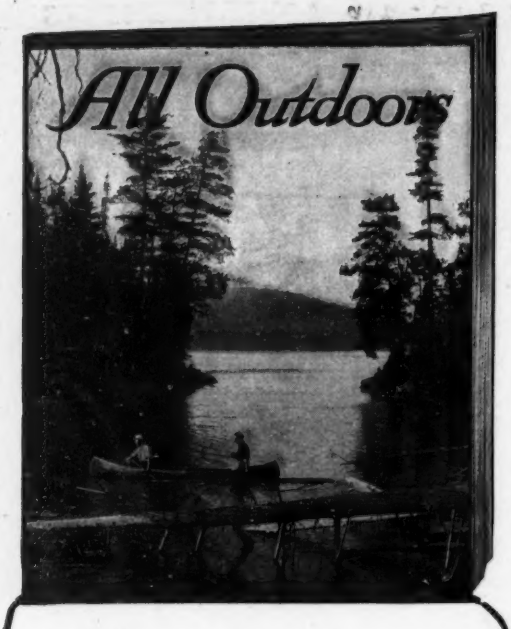

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Buy a copy of the May number at a newsstand for 15 cents and see how the editor has suited your needs. There are special pictures and articles for canoeists.

ALL OUTDOORS, Inc., 145 W. 36th St., N.Y.

Send me ALL OUTDOORS for six months on trial. 50 cents is enclosed. ($1.00 for a year.)

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Automatic Fog Bell Attachment

(*Continued from page* 214)

One of the new articles found in the catalogue is an automatic attachment for ringing a ship's bell periodically during a fog, as prescribed by law, or for sounding a fog whistle in the same way. This consists of a clock with an electric attachment connecting it and either the bell or fog whistle as desired, current being furnished by dry batteries.

There are so many features of the catalogue that might be mentioned to anyone interested in a complete compendium of marine hardware that the best thing to do is to send 25 cents to C. D. Durkee & Co., 2 South street, New York, to cover cost of delivery.

A New Marine Hardware Catalog

W. & J. Tiebout, of 118 Chambers Street, New York City, one of the oldest marine supply houses in New York, have just issued their 1915 catalogue. No matter what size boat a man may own, or what he may want for it, he will find a full list of equipment and of marine hardware in this new catalogue. The range of articles runs from fastenings and eye-bolts to steering equipment, compasses and plumbing articles.

Any man that owns a boat will find it a great convenience to have one of these catalogues on board, so that he can order any necessary equipment by mail or telegraph without waiting for lengthy correspondence, full descriptions, sizes, price, etc., of all the articles being shown in the catalogue. Better send to W. & J. Tiebout, 118 Chambers street, to-day for this book.

The Adventurer's Corner

(*Continued from page* 188)

result of some stupid mistake of the Operator's, where in the world had it brought him to?

Completely baffled, Dr. M. put a stop to his jumbled wonderings as one switches off an electric light. He hauled out his chart of the Straits and reconstructed the day's courses, realizing now, at last, thanks to the wind's hint, that his compass had never been in error at all. He allowed twenty minutes running west-southwest before the wind at eight knots and one mile of drift while picking up Hesper.

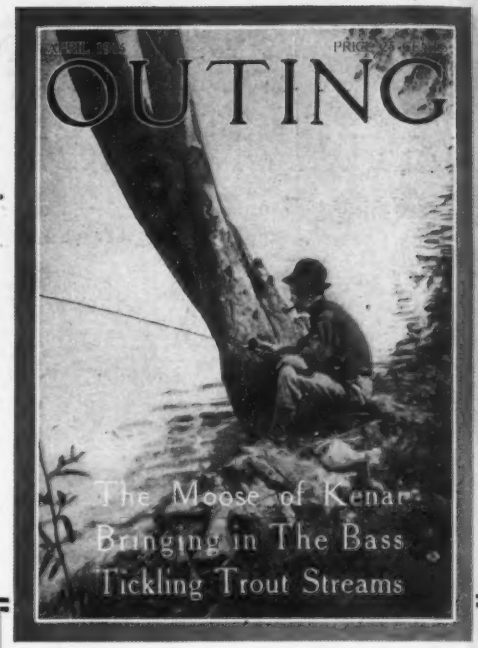
He pricked off the distance—and whistled softly. Then he sprang to the door and took a quick look astern. Well he might, for the fog broke away inshore for a moment and gave him a glimpse of the wicked, rock-girt promontory of Cape Bauld!

A minute later Harmony was back again at her old task of the morning: thrashing her way to windward, now fighting for her very life to gain an offing from the cruel cliffs of "the hardest coast on earth."

That evening a group of very worn men sat down to mess in the little launch's cabin within the sheltering circle of the Battle Islands.

"We did you a good turn, too, Doctor," said the late skipper of the Hesper with a laugh. "If you hadn't sighted us you would have been kindling wood inside of fifteen minutes more on that course."

"Beyond a doubt," replied the other, with a queer smile, "but there may be more to it. I mean that if you had not been there, perhaps the operator on Belle Isle and I would not have made that curious double blunder which led to your rescue. There are some things that happen on this coast," he added, "which one can hardly explain as coincidence."



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TODAY

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of any pudding is in the eating. The proof of OUTING'S value to you is not in our printed words, but in the magazine itself, and to the magazine we ask you to turn for verification.

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No Vibration

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of YACHTING, published MONTHLY at NEW YORK, N. Y., for APRIL 1, 1915. Editor, Herbert L. Stone, 141-5 West 36th St.; Managing Editor, Herbert L. Stone, 141-5 West 36th St.; Business Manager, P. K. Lowndes; Publisher, OUTING PUBLISHING CO.

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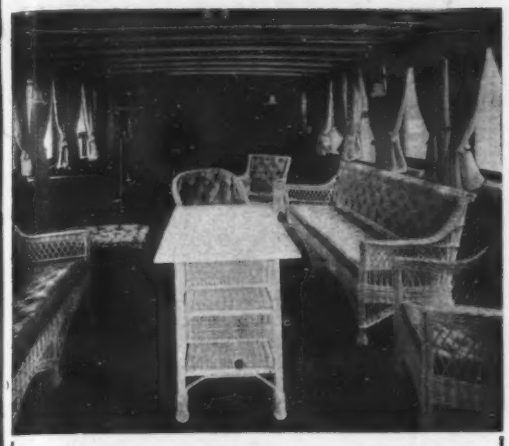
NONE.

P. K. LOWNDES, Mgr.

Sworn to and subscribed before me this 12th day of March, 1915. JOHN J. MORRIS, JR., Notary Public, New York County. (My commission expires March 30, 1915.)



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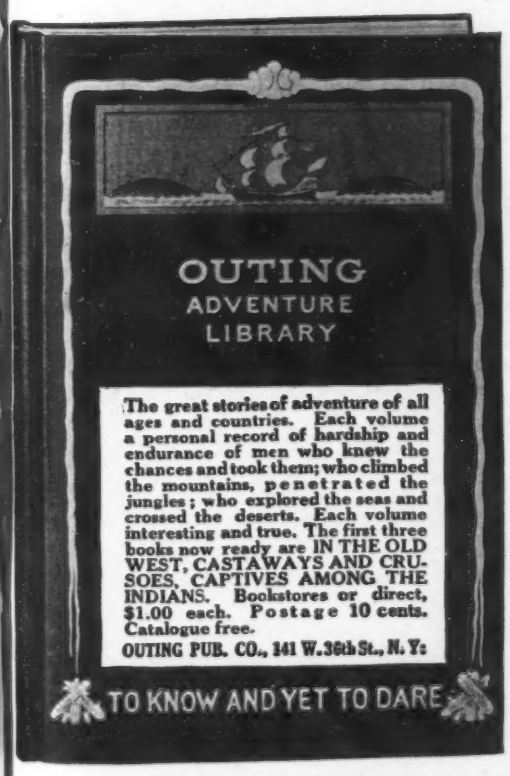
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TO KNOW AND YET TO DARE

How to Build a Racing Skiff

(*Continued from page* 200)

1¾″ screws. Fasten the ends of the floors to the side boards with 2½″ o. 11 screws.

Bore two 1″ holes through Moulds No. 2 and No. 5 about 3″ in from the ends and ½″ above the bottom edges. Any water collecting in the ends of the boat can run out through these holes. If you wish to make water-tight bulkheads of these moulds place 1″ cork stoppers in these holes. Make V-shaped cuts ½″ x ½″ in the bottom of all the other moulds and floors. These are called "limber holes" and allow any bilge water to run from one compartment to another.

You are now ready to lay the bottom of ¼″ pine. Place flannel soaked in paint on the bottom edges of side boards, stern board, seam battens, and keel, then lay the bottom, fastening in place with ¾″ No. 8 screws placed 4″ apart. The half breadth set-up plan gives the shape of the bottom boards. The seams in the bottom are backed by the keel and seam battens, but spend plenty of time getting these seams just as tight as possible. Trim the edges of the bottom flush with the sides and sternboard and round the bilge corner slightly.

Sharpen up your plane, set it to take a very thin shaving and smooth up the bottom and sides carefully. Then take an hour off and smooth up the outside of your boat as smooth as plenty of elbow grease and No. 8 1½ sandpaper will make it. A smooth surface is a very important factor in the speed of a boat, and now is the time for you to prepare for it.

Next cut the skeg from ⅞″ pine to size and shape noted in the plan and fasten it through the stern post and through the bottom with 2½″ No. 11 screws. Then turn the boat over, for you are ready to frame up the deck.

First fit the side cleats of 1½″ x ¾″ spruce. These cleats are used to stiffen the sides and are spaced half way between moulds No. 3, No. 4 and No. 5, as shown in the plans, and are fastened firmly to the chine pieces, the floors and the side boards.

Next cut the deck stringer notches ½″ wide by 1½″ deep, 8″ in from the side on mould No. 5, 8″ in from the side on mould No. 4, and 10½″ in on mould No. 3. Make these notches perpendicular to the top edge of the moulds. This will give the cockpit curb a slight flare when it is fastened in place against the deck stringer. Fit the forward end of these stringers carefully together and fasten securely to mould No. 2. Then fasten the stringers to moulds No. 3, No. 4 and No. 5 with 2″, No. 10 screws.

Get out the mast box, 3″ square inside, with ½″ pine sides. Fasten the sides carefully together and fit a 1½″ thick oak block into the bottom of the box. This block must be carefully secured to the sides of the box and to keel with 2″ screws. Place the box in the center of boat and fasten well to mould No. 2 and to keel. Now cut the deck ridge stringer (see Setting-up Plan) to shape and size, notch it in the mast box, mould No. 1 and stem. and fasten in place with 2″ screws.

Sharpen your plane and get the top of the side boards, mast box, stem and deck ridge stringer planed off so that the deck will lay flush. This can be done by the same method employed to bevel the lower edges of the side boards for the bottom. Fig. 4 shows the writer testing this bevel with the edge of a wooden plane. When the bevel is planed accurately and the sheer line is a "fair" curve from stem to stern, fit the deck beams between the side boards and deck stringers as shown in the Deck-Construction Plan. Fasten the beams to the stringers, the side cleats and the side of the boat. Fig. 4 will show how the boat should look finished up to this point.

You are now ready to fit the "eye plate" for the fore stay. This plate is set into the stem, flush, and screwed firmly in place. Cut the false stem out of oak 1⅝″ thick, straight on the after

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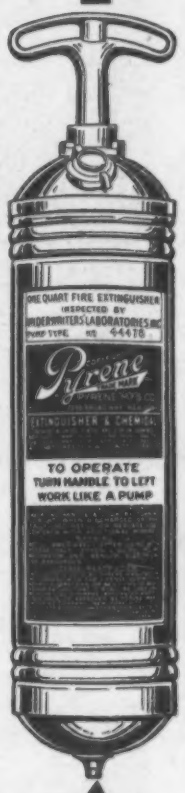

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